

PRINCEVILLE REMEDIAL ACTION PLAN

Princeville Utilities Company, Inc. 5-3541 Kuhio Highway Princeville Kauai, Hawaii 96722

May 2013

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Prepared for:

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ACRONYMS AND ABBREVIATIONS

μg/L microgram per liter

μm micrometer

AECOM Technical Services, Inc.

Calscience Environmental Laboratories, Inc.

CR completion report DOH Department of Health

DU decision unit

ELAP Environmental Laboratory Accreditation Program EPA Environmental Protection Agency, United States

EPD entry point to distribution GAC granular activated carbon

gpm gallon per minute

HEER Hazard Evaluation and Emergency Response

MCL maximum contaminant level mg/kg milligram per kilogram

mil one thousandth (10⁻³) of an inch (0.0254 millimeter)

mm millimeter

PCB polychlorinated biphenyl

PUCI Princeville Utilities Company, Inc.
QA/QC Quality Assurance/Quality Control

RAP Remedial Action Plan SDWB Safe Drinking Water Branch

TNWRE Tom Nance Water Resource Engineering

TSCA Toxic Substances Control Act



1.0 INTRODUCTION

During routine water quality testing, polychlorinated biphenyls (PCBs) were detected in a 1.5 million gallon drinking water supply tank (alternatively referred to as Reservoir 1 or Tank 411) that provides water to Princeville on the island of Kauai. The concrete tank, owned by Princeville Utilities Company, Inc. (PUCI), was constructed in the early 1970s, is 100 feet in diameter and 30 feet tall, and is supplied by two wells, Well 1 and Well 2 (Figure 1) During operation, the normal water level in the tank is maintained between approximately 15 and 28 feet high.

Each of the wells has its own dedicated line shaft turbine pump (above ground motor driving a downhole pump by a connecting shaft) that can be powered by grid-supplied or emergency back-up power sources. The pump for Well #1 is oil lubricated and the pump for Well #2 is water lubricated. No detailed as-built drawings or other post-construction information were available to determine construction materials, including whether or not a sealant layer was applied to the inside of the tank, nor whether the peeling caulking observed on joints outside of the tank are also present inside (although they are presumed to be). Pumps in both wells have been driven by motors located at the surface throughout the operational history. Because there is no backup or alternate water supply system for the community of Princeville, the tank remains in use. The interior of the tank cannot be fully assessed or remediated until a backup system is in place and the tank is drained.

PUCI has contracted with another consultant, Tom Nance Water Resource Engineering (TNWRE), to design a water supply bypass system in order to isolate the tank for remediation while continuing to provide Princeville with drinking water. AECOM Technical Services, Inc. (AECOM) has been requested to formulate an investigation and remedial action plan (RAP), to assist in remedial design and related activities, and to assist PUCI in securing a contractor to perform the remediation and related work. The water supply bypass system will allow for Reservoir 1 to be emptied and remediated. However, the bypass system is not large enough to meet peak water demands placed on the system and it is imperative that remedial actions be performed in a timely fashion.

1.1 BACKGROUND AND PREVIOUS INVESTIGATIONS BY OTHERS

In September 2012, during routine laboratory analysis of drinking water samples taken from the Princeville water supply system, the State of Hawaii Department of Health (DOH) Safe Drinking Water Brach (SDWB) noted that "something" was in the water samples analyzed at their lab. However, no detectable level of PCBs in the drinking water were reported. Further investigation of the water supply system revealed a sheen on the top of the water in Reservoir 1 and foreign material along the inside tank wall above the water line. In response to these observations, PUCI fashioned and operated a skimmer to remove the sheen from the top of the water. Well 1, which is oil lubricated, was subsequently turned off.

The skimmer system originally discharged to an oil absorbent pad and then to the ground surface. This discharge has been terminated, pending mobilization of granular activated carbon (GAC) units to the site to treat the skimmer effluent. Investigation of this potential release of PCBs will be proposed in a forthcoming addendum to this RAP.

Since the initial observations of a sheen within Reservoir 1, many samples of water and other materials have been collected by the DOH and analyzed at the SDWB laboratory, the University of Hawaii, or Alloway laboratories. PUCI has also collected several samples which were analyzed at Calscience Environmental Laboratories, Inc. (Calscience). Of these labs, only Calscience and Alloway provide detailed Quality Assurance/Quality Control (QA/QC) data with their reported results and are Environmental Laboratory Accreditation Program (ELAP) certified. Drinking water analyses were performed using United States Environmental Protection Agency (EPA) Method 508A where individual PCB congeners are transformed into decachlorobiphenyl yielding a Total PCB result reported as decachlorobiphenyl. PCBs in soils and other solid samples were analyzed by EPA SW-846 Method 8082A, and samples are reported as individual Aroclors. Total PCB results for samples



analyzed by Method 8082A are generated by summing the concentrations of each of the Aroclors detected.

Sample results from initial sampling are summarized in Table 1 (water samples), Table 2 (sheen and lubricant samples), Table 3 (solid samples), and Table 4 (wipe samples), below. Appendix A contains the detailed laboratory reports. Generally, PCBs (Aroclors 1254 and 1260) have been detected in the sheen collected from the top of the water in Reservoir 1, in the material scraped from the interior tank walls of Reservoir 1, and in a caulk sample collected from the exterior of the tank. Because the drinking water samples were analyzed using EPA Method 508A and reported as decachlorobiphenyl the source of the PCB impacts cannot be determined from the drinking water analyses. However, because the sheen and materials scraped from the walls of the interior of the tank had the same PCB Aroclors as the external caulk, building materials manufactured with PCBs are the suspected source of PCBs. However, this cannot be determined definitively until samples are collected from the tank interior, after the tank is taken offline and drained.

1.1.1 Drinking Water Samples

Of the drinking water samples (see Table 1), only one sample collected from a point of use in Princeville was reported to contain PCBs above the drinking water maximum contaminant level (MCL) of 0.5 microgram per liter (µg/L), which is the State of Hawaii drinking water standard and the unrestricted use decontamination standard for PCBs in water under Toxic Substances Control Act (TSCA) (§761.79(b)(1)(iii)). This sample was collected from the St. Regis Pool Deck on February 27, 2013, and PCBs were detected at a concentration of 9.3 µg/L. However, PCBs have not been detected in any of the other samples collected at this location. In addition, it is suspected that that sample may have been compromised or cross-contaminated because: 1) it is the only time PCBs have been detected in that area which is at the lowest point (i.e., the end) of the supply system; 2) the sample was collected by PUCI staff who are not trained environmental scientists; 3) several sample containers in the cooler broke during that shipment; 4) it was reported at a significantly higher concentration than in the sheen sample collected the same day from Reservoir 1; and 5) no other samples have contained PCBs in excess of the MCL in the water supply system. There have been only two other detections of PCBs at a point of use anywhere in the water supply system downstream of Reservoir 1, both at concentrations below the MCL: Makai Tennis Shop on March 13, 2013 (0.26 µg/L); and at the entry point to distribution (EPD) at the Ranch House on March 20, 2013 (0.12 µg/L). Thus, of the 65 total samples collected from within the drinking water distribution system to date. PCBs have only been detected in 3 samples, and only once above the MCL. Drinking water continues to be sampled on a regular basis, and PCBs have not been detected at any concentration since March.

Several water samples have been collected from the supply and discharge points of the tank and also within Reservoir 1. On the supply side to the tank, three samples of water collected at the supply wells had detectable concentrations of PCBs: Well #1 Pre Chlorination on March 20, 2013 (0.34 μ g/L); Well #2 Pre Chlorination on October 23, 2012 (0.93 μ g/L); and Well #2 Post Chlorination on March 13, 2013 (1.7 μ g/L). PCBs were not detected in any of the other 19 samples collected at these locations.

A total of 16 water samples have been collected from sample points and taps located near the tank. PCBs were not detected in any of these samples.

Three samples were collected from varying depths within the tank on April 16, 2013, samples PV11, PV12, and PV13 (Table 7). PCB concentrations were reported as non-detect, 0.58 μ g/L, and 0.55 μ g/L, respectively. Variable concentrations of PCBs with depth within the water stored within the tank, and inconsistent and sporadic detections of PCBs in the water system indicates that PCBs may not be dissolved in the water, but present on colloidal particles or other solids that my settle within the water, and which may have an affinity for the sheen in the tank.



Also of interest are the PCB results from two of the split drinking water samples taken on March 20, 2013 by PUCI and SDWB. Of the split samples collected from Well #1 Pre Chlorination, one of the analyses reported PCBs while the other did not. Similarly, of the split samples from the EPD at the Ranch House on the same date, one of the analyses reported PCBs while the other did not. These varying results are not explained by the use of different analytical laboratories reporting the data. Thus, it is possible that PCBs detected in the water supply system may be attributable to stray particles or colloids, rather than dissolved phase PCBs (i.e., one sample of otherwise similar water may have contained a particle, while the other may not have).

1.1.2 Sheen and Lubricant Samples

Samples of the skim which consisted of the oil sheen and water from Reservoir 1 were submitted for analysis of total PCBs by EPA Method 508A (see Table 2). PCBs were detected in all 7 samples collected of this material between October 23, 2012 and March 13, 2013, at concentrations reported to range from 0.99 μ g/L (below the reporting level) to 39 μ g/L. From these results it is apparent that the PCBs originated from a source material either within the tank itself or conceivably upstream from the tank. As previously discussed, a skimmer system has been established to remove this PCB impacted sheen material from the drinking water supply.

1.1.3 Solid Samples Collected by DOH and PUCI

Two solid samples collected by scraping material from the interior wall of the tank were collected by PUCI on February 5, 2013 and submitted for analysis by EPA Method 8082. Total PCB concentrations in the samples were 1,580 milligrams per kilogram (mg/kg), and 1,630 mg/kg. These results indicate that there may be a coating on the interior that contains PCBs, or that the sheen may be smearing on the concrete, as the water level rises and falls, and accumulating PCBs. Inspection of the entire interior of the tank is needed to further evaluate the source of these PCBs.

On March 6, 2013, DOH Office of Hazard Evaluation and Emergency Response (HEER) collected a sample of the exterior caulk on the tank, scrapings of a "gritty playdoh" like material from the interior, and a discrete soil sample from an excavation pit outside the tank. Analytical laboratory reports or other information regarding this sampling were not made available. However, PCBs were reportedly detected in the exterior caulk at a concentration of 7,500 mg/kg. As it is known that PCBs were used in the manufacture of caulk at the time of the construction of Reservoir 1, this material is classified as a PCB Bulk Product Waste. The gritty playdoh material had PCBs reportedly at a concentration of 200 mg/kg. The exact nature and source of this material is not known and its classification will required additional investigation of the interior of the tank once the water is drained. DOH also collected a discrete sample of soil from near the tank and PCBs were detected at a concentration of 5 mg/kg. The likely source for these impacts to soil is probably from flaking or deteriorating caulk as these types of impacts are common when PCB Bulk Product Waste caulks are identified on the exterior of a structure. Further investigation of soil exterior to the tank is planned, as discussed in Section 2.6.

On March 30, 2013, DOH collected multi-incremental soil samples from surface soil in 6 decision units near Reservoir 1 (Figure 3), as well as surface soil decision units near each of Wells 1 and 2. Results were consistent with all other analyses of caulking and sheen, showing Aroclors 1254 and 1260. Concentrations of PCBs in the decision units near the tank ranged from non-detect to 18.0 mg/kg. The soil samples from decision units near the wells did not contain detectable levels of PCBs. Solid samples of caulking and scrapings from inside the tank were also consistent with other similar sample results (Table 3). Detailed laboratory QC reports were not provided.

1.1.4 Wipe Samples Collected by DOH

DOH collected a total of 8 wipe samples on April 16, 2013, four each from various locations within the Well #1 and Well #2 pump stations, including the motor housings (Figure 4 and Figure 5 show approximate sampling locations). Detailed analytical laboratory reports for these samples were not provided, but the following results were reported by DOH (Appendix A).



For Well #1, all samples were non-detect for PCBs (reporting limits unknown) but the DOH report indicated that oil profiles consistent with fresh or degraded oil were identified. For Well #2, three of the samples were non-detect for PCBs (reporting limits unknown). The wipe sample collected from the drive shaft for the Well #2 pump was reported to have traces of pentachlorobiphenyl, but not at reportable levels. All of the wipe samples also indicated the presence of degraded oil or diesel and also fresh oil. Well #2 is currently water lubricated and reportedly has always used water lubricant, so the source for the oil may require further investigation.



Table 1: Analysis of Water Samples Collected by DOH and PUCI

					0	a	Results	h T		C
Sample	Sampling Date	Sampling Time	Parameter	Units	Calscienc Result	e a RL	DOH La	RL	Alloway Result	/ [°] RL
Well #2 Pre-Chlor.	10/23/2012	13:48	Total PCBs	µg/L	ND	0.25	Result	KL	Result	KL
	3/13/2013	10:00	Total PCBs	μg/L	0.93	0.25				
	3/20/2013	8:20	Total PCBs	μg/L	ND	0.25				
	3/20/2013	8:30	Total PCBs	μg/L					ND ^d	0.1
	3/20/2013	8:30	Total PCBs	μg/L	ND ^d	0.25			110	
	3/20/2013	n/a	Total PCBs	μg/L	IND		ND ^d			
Well #2 Post-Chlor.	10/23/2012	13:45	Total PCBs	μg/L	ND	0.25	ND			
vvcii #2 i ost-omor.	3/13/2013	9:50	Total PCBs	μg/L	1.7	0.25				
	3/20/2013	8:30	Total PCBs	μg/L					ND ^d	0.1
	3/20/2013	8:30	Total PCBs	μg/L	ND ^d	0.25			110	
	3/20/2013	n/a	Total PCBs	μg/L	ND	0.20	ND ^d			-
	4/2/2013	9:55	Total PCBs	μg/L	ND	0.25	ND			
	4/9/2013	11:20	Total PCBs		ND	0.23			d	0.
				μg/L	ND	0.25			ND ^d	0.
	5/1/2013	8:28	Total PCBs	μg/L						
Well #1 Pre Chlor.	10/24/2012 3/20/2013	8:00 10:30	Total PCBs Total PCBs	μg/L μg/L	ND	0.25			ND ^d	0.
	3/20/2013	10:30	Total PCBs	μg/L	0 0 4 d	0.25			ND	0.
	3/20/2013				0.34 ^d	0.25	d			
W II #4 D + OLL		n/a	Total PCBs	μg/L	NB	0.05	ND ^d			
Well #1 Post-Chlor.	10/24/2012 4/9/2013	8:05 9:45	Total PCBs Total PCBs	μg/L μg/L	ND	0.25			ND	0.1
	4/16/2013	11:00	Total PCBs		ND	0.25			110	0.
	4/25/2013	8:00	Total PCBs	μg/L	ND ND	0.25				-
				μg/L	ND	0.25	ND	0.5		
Makai Club Cottage	11/14/2012 11/19/2012	9:50 9:55	Total PCBs Total PCBs	μg/L μg/L			ND ND	0.5		
	11/20/2012	10:00	Total PCBs	μg/L	ND	0.25	110	0.0		
		9:54			ND	0.23	ND	0.5		-
	11/27/2012		Total PCBs	μg/L						
	12/4/2012	10:15	Total PCBs	μg/L			ND	0.5		
	1/22/2013	10:10	Total PCBs	μg/L			ND	0.5		
	2/5/2013	8:37	Total PCBs	μg/L			ND	0.5		
	3/4/2013	n/a	Total PCBs	μg/L			ND			
Makai Tennis Shop	3/5/2013	7:40	Total PCBs	μg/L	ND	0.25				
	3/13/2013	10:50	Total PCBs	μg/L	0.26	0.25				
	3/20/2013	9:40	Total PCBs	μg/L					ND ^d	0.1
	3/20/2013	9:45	Total PCBs	μg/L	ND ^d	0.25				
	3/20/2013	n/a	Total PCBs	μg/L			ND ^d	0.5		
	3/26/2013	8:45	Total PCBs	μg/L	ND	0.25				
	4/2/2013	9:15	Total PCBs	μg/L	ND	0.25				
	4/9/2013	10:50	Total PCBs	μg/L					ND	0.1
	4/16/2013	8:50	Total PCBs	μg/L	ND	0.25				
	4/25/2013	7:40	Total PCBs	μg/L	ND	0.25				
	5/1/2013	7:36	Total PCBs	μg/L	ND	0.25				
St. Regis Pool Deck	11/14/2012	10:15	Total PCBs	μg/L			ND	0.5		
•	11/19/2012	10:15	Total PCBs	μg/L			ND	0.5		
	11/20/2012	9:42	Total PCBs	μg/L	ND	0.25				
	11/27/2012	10:10	Total PCBs	μg/L			ND	0.5		
	12/4/2012	11:15	Total PCBs	μg/L			ND	0.5		
	12/6/2012	10:55	Total PCBs	μg/L	ND	0.25				
	1/22/2013	10:45	Total PCBs	μg/L			ND	0.5		
	2/5/2013	9:00	Total PCBs	μg/L			ND	0.5		
	2/27/2013	7:20			9.3	2.5	ND	0.5		
		*	Total PCBs	μg/L	9.3	2.5	ND			
	3/4/2013	7.40	Total PCBs	μg/L	NIB.	0.05	ND			
	3/5/2013	7:12	Total PCBs	μg/L	ND	0.25				
	3/13/2013	10:30	Total PCBs	μg/L	ND	0.25				
	3/20/2013	9:25	Total PCBs	μg/L					ND ^d	0.
	3/20/2013	9:20	Total PCBs	μg/L	ND ^d	0.25				
	3/20/2013	*	Total PCBs	μg/L			ND ^d			
	3/26/2013	8:30	Total PCBs	μg/L	ND	0.25				
	4/9/2013	10:35	Total PCBs	μg/L					ND	0.
	4/16/2013	8:35	Total PCBs	μg/L	ND	0.25				+
						0.25		+		+
	4/25/2013	7:20	Total PCBs	μg/L	ND	0.23		1 1		

Table 1: Analysis of Water Samples Collected by DOH and PUCI (cont'd)

							Results			
		Sampling			Calscienc	e a	DOH La	b b	Alloway	/ ^c
Sample	Sampling Date	Time	Parameter	Units	Result	RL	Result	RL	Result	RL
411 Sample Point #1	10/23/2012	13:32	Total PCBs	μg/L	ND	0.25				
411 Sample Point #2	10/24/2012	8:15	Total PCBs	μg/L	ND	0.25				
Tap at 411 tank	11/20/2012	10:39	Total PCBs	μg/L	ND	0.25				
	12/6/2012	11:16	Total PCBs	μg/L	ND	0.25				
	2/5/2013	14:00	Total PCBs	μg/L	ND	0.25				
	3/5/2013	8:20	Total PCBs	μg/L	ND	0.25				
Tap after 411 Reservoir	10/2/2012	8:15	Total PCBs	μg/L			ND ^e	0.5		
	11/14/2012	9:20	Total PCBs	μg/L			ND	0.5		
	11/19/2012	9:35	Total PCBs	μg/L			ND	0.5		
	11/27/2012	9:27	Total PCBs	μg/L			ND	0.5		
	12/4/2012	10:30	Total PCBs	μg/L			ND	0.5		
	12/6/2012	*	Total PCBs	μg/L			ND			
	1/22/2013	10:15	Total PCBs	μg/L			ND	0.5		
	2/5/2013	8:11	Total PCBs	μg/L			ND	0.5		
	2/14/2013	10:10	Total PCBs	μg/L			ND	0.5		
	3/4/2013	*	Total PCBs	μg/L			ND			
Ranch	3/13/2013	11:05	Total PCBs	μg/L	ND	0.5				1
EPD at Ranch House	3/20/2013	10:00	Total PCBs	μg/L					0.12 ^d	0.1
	3/20/2013	10:05	Total PCBs	μg/L	ND ^d	0.25				
	3/20/2013	*	Total PCBs	μg/L			ND ^d			
	3/26/2013	9:00	Total PCBs	μg/L	ND	0.25				
	4/2/2013	9:40	Total PCBs	μg/L	ND	0.25				
	4/9/2013	11:10	Total PCBs	μg/L					ND	0.1
	4/16/2013	9:05	Total PCBs	μg/L	ND	0.25				1
	4/25/2013	8:15	Total PCBs	μg/L	ND	1.25				1
	5/1/2013	8:00	Total PCBs	μg/L	ND	0.25				1

Bold Detection above laboratory reporting limit

Bold italics Concentration greater than EPA MCL for total PCBs (0.5 μ g/L).

 μ g/L micrograms per liter RL reporting limit

Calscience analyzed samples per EPA Method 508A (reporting limit 0.25 µg/L). Result is reported as total PCBs

quantified as decachlorobiphenyl.

DOH laboratory analyzed samples per EPA Method 508, which quantified the concentration of seven Aroclors (reporting limits in parentheses): 1016 (0.26 μg/L), 1221 (0.19 μg/L), 1232 (0.23 μg/L), 1242 (0.26 μg/L), 1248 (0.30 μg/L), 1254 (0.33 μg/L), 1260 (0.36 μg/L). According to the DOH laboratory report, "any positive result would require analysis for total

 $(0.33 \, \mu g/L)$, 1260 $(0.36 \, \mu g/L)$. According to the DOH laboratory report, "any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A. The listed detection limits are the concentration equivalent of 0.5 $\, \mu g/L$ decachlorobiphenyl."

decachlorobiphenyl."

c Alloway analyzed samples per EPA Method 508A (reporting limit 0.10 μg/L). Result is reported as total PCBs quantified

Split sample

Trace amounts of Aroclor 1254 were noted as "may be present" by the DOH. The DOH lab recommended sending a

sample to a lab certified to quantitate the amount of PCBs as Decachlorobiphenyl by EPA method 508A.

* Sample time not available.

Table 2: Analysis of Sheen and Lubricant Samples Collected by DOH and PUCI

		Sampling				
Sample	Sampling Date	Time	Parameter ^a	Units	Results	RL
Skim	10/23/2012	13:30	Total PCBs	μg/L	18	2.5
	11/20/2012	10:49	Total PCBs b	μg/L	0.99	1.0
	12/6/2012	11:20	Total PCBs	μg/L	1.4	0.25
	2/5/2013	14:00	Total PCBs	μg/L	39	2.5
	2/27/2013	8:23	Total PCBs	μg/L	4.4	0.25
	3/5/2013	8:00	Total PCBs	μg/L	8.7	2.5
	3/13/2013	11:20	Total PCBs	μg/L	3.7	2.5
Old Pre-Lube	11/20/2012	9:37	Total PCBs	μg/kg	ND	1,000
Current Pre-Lube	11/20/2012	10:31	Total PCBs	μg/kg	ND	1,000

Bold italics Detected above laboratory reporting limit.

µg/kg microgram per kilogram RL reporting limit

a Skim samples were analyzed by Calscience for total PCBs quantified

as decachlorobiphenyl using EPA Method 508A (reporting limit 0.25 μ g/L) unless otherwise noted. Pre-lube samples were analyzed by Calscience using Method 8082, which quantified the concentration of eight Aroclors (1016, 1221, 1232, 1242, 1248, 1254, 1260, and 1262);

the reporting limit for each Aroclor was 1,000 $\mu g/kg$.

b Sample analyzed by Calscience using EPA Method 8082, which quantified the concentration of eight Aroclors: 1016, 1221, 1232, 1242,

1248, 1254, 1260, and 1262. The reporting limit for each Aroclor was

Table 3: Analysis of Solid Samples Collected by DOH and PUCI

Sample	Sampling Date	Sampling Time	Parameter	Units	Results	RL
Wall Scraping #A	2/5/2013	14:00	Aroclor-1016	mg/kg	ND	500
			Aroclor-1221	mg/kg	ND	500
			Aroclor-1232	mg/kg	ND	500
			Aroclor-1242	mg/kg	ND	500
			Aroclor-1248	mg/kg	ND	500
			Aroclor-1254	mg/kg	830	500
			Aroclor-1260	mg/kg	750	500
			Aroclor-1262	mg/kg	ND	500
			Total PCBs ^a	mg/kg	1,580	500
Wall Scraping #B	2/5/2013	14:00	Aroclor-1016	mg/kg	ND	500
Wall Octaping #B	2/3/2013	14.00	Aroclor-1221	mg/kg	ND	500
			Aroclor-1232	mg/kg	ND	500
			Aroclor-1242	mg/kg	ND	500
			Aroclor-1248	mg/kg	ND	500
			Aroclor-1254		840	500
				mg/kg		
			Aroclor-1260	mg/kg	790	500
			Aroclor-1262	mg/kg	ND	500
			Total PCBs ^a	mg/kg	1,630	500
Caulking on Outside	3/6/2013	n/a	Total PCBs b	mg/kg	7,500	
of Tank Wall Scrapings Inside	3/6/2013	n/a	Total PCBs b	mg/kg	200	
Tank – "Gritty	3/0/2013	II/a	Total PCBs	ilig/kg	200	
Playdoh"						
Soil from Excavation	3/6/2013	n/a	Total PCBs b	mg/kg	5	
Pit Outside Tank DU 01	3/20/2013	13:00	Aroclor-1016	mg/kg	ND	0.025
D0 01	3/20/2013	13.00	Aroclor-1010	mg/kg	ND	0.025
			Aroclor-1232	mg/kg	ND	0.025
			Aroclor-1242	mg/kg	ND	0.025
			Aroclor-1248	mg/kg	ND	0.025
			Aroclor-1254	mg/kg	ND	0.025
			Aroclor-1260	mg/kg	0.027	0.025
			Total PCBs ^c	mg/kg	0.027	0.025
DU 02	3/20/2013	13:00	Aroclor-1016	mg/kg	ND	2.5
			Aroclor-1221	mg/kg	ND	2.5
			Aroclor-1232	mg/kg	ND	2.5
			Aroclor-1242 Aroclor-1248	mg/kg mg/kg	ND ND	2.5 2.5
			Aroclor-1254		6.0	2.5
				mg/kg		
			Aroclor-1260	mg/kg	12.0	2.5
DU 03	3/20/2013	13:00	Total PCBs ^c Aroclor-1016	mg/kg mg/kg	18.0 ND	2.5 0.25
DO 00	3/20/2013	13.00	Aroclor-1016 Aroclor-1221	mg/kg	ND	0.25
			Aroclor-1232	mg/kg	ND	0.25
			Aroclor-1242	mg/kg	ND	0.25
			Aroclor-1248	mg/kg	ND	0.25
			Aroclor-1254	mg/kg	0.73	0.25
			Aroclor-1260	mg/kg	1.2	0.25
		1	Total PCBs c	mg/kg	1.93	0.25

Table 3: Analysis of Solid Samples Collected by DOH and PUCI (cont'd)

Sample	Sampling Date	Sampling Time	Parameter	Units	Results	RL
DU 04	3/20/2013	13:00	Aroclor-1016	mg/kg	ND	0.49
			Aroclor-1221	mg/kg	ND	0.49
			Aroclor-1232	mg/kg	ND	0.49
			Aroclor-1242	mg/kg	ND	0.49
			Aroclor-1248	mg/kg	ND	0.49
			Aroclor-1254	mg/kg	1.6	0.49
			Aroclor-1260	mg/kg	1.4	0.49
			Total PCBs ^c	mg/kg	3.0	0.49
DU 05	3/20/2013	13:00	Aroclor-1016	mg/kg	ND	0.025
			Aroclor-1221	mg/kg	ND	0.025
			Aroclor-1232	mg/kg	ND	0.025
			Aroclor-1242	mg/kg	ND	0.025
			Aroclor-1248	mg/kg	ND	0.025
			Aroclor-1254	mg/kg	0.031	0.025
			Aroclor-1260	mg/kg	0.029	0.025
			Total PCBs ^c	mg/kg	0.06	0.025
DU 06	3/20/2013	13:00	Total PCBs ^c	mg/kg	ND	0.025

Bold italics Concentration greater than 1 mg/kg for total PCBs. TSCA (40 CFR

n/a Sample time not available.
mg/kg milligram per kilogram
RL reporting limit

Samples analyzed by Calscience using EPA Method 8082 (reporting Sample analyzed by DOH laboratory using in-house methods adapted

^c Sample analyzed by TestAmerica using EPA Method 8082.

1.2 Preliminary Investigations by AECOM

1.2.1 Limited Initial Site Reconnaissance and Sampling

AECOM initially went to the site on March 6, 2013, accompanied by PUCI, SDWB, and HEER. The site reconnaissance and limited sampling event was documented in a memorandum dated March 13, 2013, and is summarized here.

At the time of the site reconnaissance, only Well 2 (which supplies water at approximately 1,300 gallons per minute [gpm]) was in use. The pump stations at each of the wells were observed to contain mechanical power, pumping and treatment equipment, and an exterior aboveground storage tank. A pad-mounted transfer with the sticker "No PCBs" was located approximately 50 feet from the structure containing Well 2. Well 2 is currently water lubricated.

Various mechanical fluids (reportedly lubricating oil, solvent, and petroleum product) were stored inside of the pump building for Well 1. Each of the fluids was being stored in quantities less than 20 gallons and no evidence of spills were observed on the concrete floor or surrounding the building. Logbooks located at each well indicated that lubricating fluid was applied to the pump equipment at a rate of one drop per 6 seconds. According to TNWRE, Well 1 is currently oil-lubricated, while Well 2 has only been lubricated by pumped water since its construction. Based on the design of the pump system at each well, TNWRE believed it possible that lubricating fluids could have historically come into direct contact with water that would then be directed toward Reservoir 1. Therefore, former lubricating fluids may conceivably have been a historical source of PCBs that could have accumulated in Reservoir 1, however, there is no way to verify or disprove that historical possibility at this point. Oil currently stored for use at Well 1 was recently confirmed to be "food grade" (i.e., sufficient for use in a drinking water system, and not containing PCBs); however, there is no way to determine whether lubricants used in the past may have contained PCBs.

Reservoir 1 is a large concrete aboveground water storage tank, approximately 30 feet tall. The cylindrical concrete structure appeared to be constructed of three horizontal layers. Upon closer inspection, the layers appeared to be internally locked together and sealed, at least externally, and presumably internally, with caulking. The exterior caulking was weathered and peeling, however, no water was observed to be leaking from the tank, nor was any significant staining potentially related to leaking water observed. Therefore, the caulking may also be present inside the tank, although this could not be confirmed using the one limited access port, which is on the top of the tank, and therefore will be investigated once the tank is offline and drained of water. The interior wall of the tank above the waterline was observed to have patches of dark gray to black coloration, and appeared to be bare concrete in some areas. Black surfacing material, possibly sealant, was visible towards the top of the sidewalls, above the assumed water scour line. A ladder constructed of white PVC piping was also stained a dark gray to black color in visible areas above the water level, which was approximately 8 feet below the top of the tank at the time of reconnaissance.

During the site reconnaissance, a homemade skimming device was observed removing a sheen from the top of the water. The skimmed water was being discharged to the ground after filtration through a petroleum absorbent bag. No sheen or odor were noted in the tank or in the ponded water discharged to the ground. The ultimate discharge point is not known.

Four samples were collected during the site reconnaissance and were analyzed for PCBs by Calscience: post-chlorination water sample at Well 2 (PV01) (Table 4), scrapings from the interior wall (PV02) and ladder (PV03) at Reservoir 1 (Table 5), and caulking on the exterior of Reservoir 1 (PV04) (Table 5). Detectable PCB concentrations were reported in each sample: PV01: 0.38 μg/L; PV02: 4,700 mg/kg, PV03: 5,100 mg/kg; and PV04: 12,700 mg/kg. The post-chlorination water sample from Well 2 did not exceed the State drinking water standard and EPA MCL of 0.5 μg/L. The exterior caulk is classified as a PCB Bulk Product Waste as the PCB concentrations are ≥50 mg/kg and the presumed source of PCBs in this material is from manufacture. The materials scraped from the interior wall and ladder are not yet classified. If the PCB impacts from the scrapings are from a



"smear zone" of the sheen layer they will be considered a PCB Remediation Waste. However, if the material is a sealant or other material used in the construction of the tank, then the scraped material will be classified as a PCB Bulk Product Waste. Both of these scenarios will be evaluated during inspection of the tank after it has been drained (Section 2.2.2). Detailed laboratory reports and QA/QC data for samples collected by AECOM are presented in Appendix B.

Because supply water samples in Princeville had been taken both of the previous days (March 4 by SDWB and March 5 by PUCI), and all samples were reported to be non-detect, no samples were taken from the water supply system downstream of Reservoir 1 on the day of the initial site reconnaissance.

Table 4: Analysis of Water Samples Collected by AECOM

Sample	Sampling Date	Sampling Time	Parameter	Units	Results	EPA MCL
PV01	3/6/2013	10:20	Total PCBs ^a	μg/L	0.38	0.5

Bold Detection above laboratory reporting limit

Table 5: Analysis of Solid Samples Collected by AECOM

Sample	Sampling Date	Sampling Time	Parameter	Units	Results
PV02	3/6/2013	11:30	Aroclor-1016	mg/kg	< 500
			Aroclor-1221	mg/kg	< 500
			Aroclor-1232	mg/kg	< 500
			Aroclor-1242	mg/kg	< 500
			Aroclor-1248	mg/kg	< 500
			Aroclor-1254	mg/kg	2,600
			Aroclor-1260	mg/kg	2,100
			Aroclor-1262	mg/kg	< 500
			Total PCBs a	mg/kg	4,700
PV03	3/6/2013	12:40	Aroclor-1016	mg/kg	< 500
			Aroclor-1221	mg/kg	< 500
			Aroclor-1232	mg/kg	< 500
			Aroclor-1242	mg/kg	< 500
			Aroclor-1248	mg/kg	< 500
			Aroclor-1254	mg/kg	2,900
			Aroclor-1260	mg/kg	2,200
			Aroclor-1262	mg/kg	< 500
			Total PCBs ^a	mg/kg	5,100
PV04	3/6/2013	13:10	Aroclor-1016	mg/kg	< 500
			Aroclor-1221	mg/kg	< 500
			Aroclor-1232	mg/kg	< 500
			Aroclor-1242	mg/kg	< 500
			Aroclor-1248	mg/kg	< 500
			Aroclor-1254	mg/kg	6,200
			Aroclor-1260	mg/kg	6,500
			Aroclor-1262	mg/kg	< 500
			Total PCBs a	mg/kg	12,700

^a Total PCBs is the sum of positive Aroclor detections. All samples analyzed by EPA Method 8082. **Bold italics** Detection above laboratory reporting limit



Total PCBs quantified as decachlorobiphenyl. Sample analyzed by EPA Method 508A.

1.2.2 Phase 1 Limited Soil Sampling

On March 20, 2013, AECOM conducted a limited Phase 1 soil sampling investigation. The goal of the sampling event was to characterize the PCB content of soil that might be contacted or disturbed by workers during installation of the bypass system in the vicinity of Reservoir 1 in order to assess potential worker health exposure due to contact with the soil during bypass system installation.

The Phase 1 investigation implemented an incremental soil sampling approach for surface soils based on the DOH Technical Guidance Manual (DOH 2009), in accordance with the Phase 1 Sampling Plan and the Health and Safety Plan (AECOM 2013). The incremental sampling approach entailed collecting samples based on a statistically representative number of randomly located small equal volume increments of the targeted media from within specific areas, called decision units (DUs). Further random subsampling of the collected total mass of the field sample was conducted in the laboratory before analysis. Using the incremental sampling approach, the analytical result can be considered representative of the average concentration in the DU, and can serve as a basis for evaluating risk to human health due to exposure to the soil.

For the purpose of the Phase 1 investigation, five separate DUs associated with the proposed temporary bypass water tank installation were identified (Figure 2). The DUs were located in areas that may require ground disturbance or could result in worker exposure to surface soil during assembly of the of the water bypass system.

- DU 01 (sample PV07) comprised the previously excavated trench for underground piping connecting Reservoir 1 to the proposed temporary water tanks (three 20,000 gallon tanks).
- DU 02 (sample PV05) comprised the soil excavated from and stockpiled next to the previously excavated trench.
- DU 03 (sample PV10) comprised the surface soils in the area leading from the previously excavated trench (DU 01) to the proposed temporary water tanks.
- DU 04 (sample PV09) encompassed the footprint where the new temporary water tanks will be installed.
- DU 05 (sample PV08) encompassed the footprint of the proposed retention basin where overflow water from the proposed temporary water tanks will be stored.

Samples were collected in the field between the ground surface and 4 inches below ground surface using a battery operated portable hole saw with removable drill bits. The drill bits were disposed of after sampling each DU in order to avoid potential cross-contamination. Stainless steel trowels were used when increments could not be obtained using the drill. When gravel cover or vegetation was present at the surface it was removed and the sample was collected from beneath the gravel or vegetation layer.

As summarized in Table 6, no PCBs were detected in any of the samples. The full laboratory analytical report and QA/QC data is presented in Appendix B. Despite the non-detection of PCBs in the soil in the vicinity of the bypass system, AECOM recommended that the construction contractor conservatively observe appropriate health and safety requirements to protect against potential PCB exposure. It was recommended that all site workers observe the safety measures suggested by HEER and take measures to prevent generation of airborne dust or surface water runoff.



			Results		
Sample ID ^b	Decision Unit	Units	Parameter ^a	Concentration	
PV05	DU 02	μg/kg	Total PCBs	ND	
PV07	DU 01	μg/kg	Total PCBs	ND	
PV08	DU 05	μg/kg	Total PCBs	ND	
PV09	DU 04	μg/kg	Total PCBs	ND	
PV10	DU 03	μg/kg	Total PCBs	ND	

Table 6: Results of Phase 1 Soil Investigation Collected on March 20, 2013

µg/kg microgram per kilogram

ND nondetect

1.3 CONCEPTUAL SITE MODEL

Numerous potential source materials have been identified and investigated. These source materials include:

- **Building Materials on the Tank** Exterior caulks are known to contain PCBs at concentrations greater than 50 mg/kg and analytical data collected to date strongly indicate that similar materials are present on the interior of the tank. However, the presence of these materials cannot be confirmed until the tank has been emptied of its contents.
- Historically and Currently Used Pump Lubricating Oils No information was found
 indicating that potentially PCB-containing oils were used historically to lubricate the pumps.
 However, the records are not considered to be complete enough to eliminate this as a
 potential historical source. It has been confirmed that the oil currently used for lubricating
 Well #1 does not contain PCBs.
- PCB Capacitors in the Down-Well Pumps The pumps are driven by motors located and actuated at the surface. Thus, it is not considered likely that the pumps are equipped with capacitors as they would serve no function.

The Conceptual Site Model for the PCB impacts identified within tank and to exterior soil is as follows:

- The oily sheen on the water surface within the tank is known to be impacted with PCBs. The source of the oil is not known and the continued operation of the skimming system will be maintained until the source has been mitigated (once a GAC treatment system is mobilized to the site to treat its effluent). Because oil currently in use does not contain PCBs the source of the PCBs in the sheen is not considered to be lubricating oil. PCBs in building materials may partition into the oil sheen, which would explain the presence of PCBs in this phase. A sample of the sheen will be collected and analyzed by EPA Method 8082A to determine the Aroclors present and investigate further details such as a qualitative characterization of Aroclor mixtures (if any), evidence of weathering or degradation, and any anomalous peaks.
- PCBs are not consistently detected in the drinking water supply system and some split samples collected at the same time had PCBs detected in one split but not the other. In addition, sampling at different levels within the water column within the tank were not all impacted with PCBs which would be expected if the PCBs were truly in a dissolved phase. Thus, it is believed that the PCBs are sorbed to particulate or colloidal materials in the water. Building materials containing PCBs are a likely source for these solids.



Total PCBs analyzed by EPA Method 8082. Sum of eight Aroclor concentrations: Aroclor-1016, -1221, -1232, -1242, -1254, -1254, -1260, and -1262. The laboratory reporting limit for each individual Aroclor was 50 μg/kg.

^b Sample PV06 was a duplicate sample that was not analyzed because no PCBs were detected in this soil sampling event.

1.4 PCB MATERIAL DEFINITIONS AND DISPOSAL REQUIREMENTS

PCB Bulk Product Wastes are wastes derived from manufactured products containing PCBs in a non-liquid state containing PCBs ≥50 mg/kg (40 CFR §761.3). PCB Bulk Product Wastes at Princeville may potentially include caulking, sealants, or other building materials. PCB Bulk Product Wastes are not authorized for use and must be removed and disposed of according to 40 CFR §761.62. PCB Bulk Product Wastes may be disposed of at a non-hazardous waste landfill, if it is permitted to accept PCBs at the relevant concentrations. However, no landfill in the State of Hawaii is permitted to accept PCB Bulk Product Wastes (11 HAR §58.1-15 [DOH 1994]).

PCB Remediation Waste contains PCBs as a result of a spill, release or unauthorized disposal, at concentrations ≥50 mg/kg (40 CFR §761.3). PCB Remediation Waste at Princeville may potentially include soil, sediments, and used GAC (upon completion of remediation). The disposal of PCB remediation waste is regulated under 40 CFR §761.61. PCB Remediation Waste will be containerized and disposed of at a Chemical Waste Landfill (40 CFR §761.75) located on the mainland.

Cleanup wastes include non-liquid cleaning materials and personal protective equipment generated during cleanup of PCB remediation waste. Cleanup wastes can be disposed of as municipal and solid waste (§761.61(a)(5)(v)).

Water, whether from inside Reservoir 1, or water used during cleanup or decontamination, will be treated with a GAC system until the PCB concentration is less than 0.5 μ g/L, at which point it is approved for unrestricted use (40 CFR §761.79). Treated water can be disposed of in the onsite infiltration basin, as long as there is no surface discharge from the site.

1.5 **CERTIFICATION**

Written certification, as required in 40 CFR §761.61(a)(3)(E), signed by the Owner of the property, PUCI, is attached in Appendix C. An additional certification signed by the party conducting the cleanup will be submitted after the contractor has been selected.



2.0 REMEDIAL ACTION PLAN

This RAP currently has six primary components:

- Installation of Water Supply Bypass System
- Investigation and Remediation of Reservoir 1
- Tank Exterior Remediation
- Source Investigation
- Post Remediation Water Supply Sampling
- · Phase 2 Investigation

Additional supplemental activities that will be required include Waste Storage and Handling Equipment Decontamination. Based on the field observations and analytical results, additional response actions may be required.

2.1 INSTALLATION OF WATER SUPPLY BYPASS SYSTEM

Reservoir 1 must be isolated from the drinking water supply system in order to more fully investigate its contents and construction, to remediate PCB impacts to the tank, and to determine whether the water supply shows any PCBs impacts once it is isolated from the tank. A water supply bypass system has been designed by TNWRE, and other contractors have begun installing and testing the system. The remainder of this RAP cannot be implemented until the pumps and bypass system are operating and approved for use by the SDWB.

2.2 INVESTIGATION AND REMEDIATION OF RESERVOIR 1

Once the water supply bypass system is in place, and has been confirmed to be acceptable for use, PCB impacts to Reservoir 1 will be further investigated, and the tank will be remediated prior to being put back into service. Anticipated sampling and analysis during this phase is discussed in Section 4.0.

The following sections discuss the steps proposed for tank remediation. Generally, PCB bulk product wastes will be removed, as their continued use is not authorized (40 CFR §761.62). Other PCB-impacted materials identified within the tank will be removed as well. Because decontaminated pervious concrete surfaces of the tank cannot later be directly in contact with drinking water (40 CFR §761.30(u)(2)), the concrete surfaces of the tank will be encapsulated in a manner that prevents direct contact and allows for long-term monitoring of effectiveness (see Section 2.2.4). The EPA and DOH will be consulted throughout the project to ensure regulatory approval of all remedial work. Should future findings suggest any additional or modified remedial activities, addenda to this RAP will be submitted for regulator review.

2.2.1 Partially drain tank, treat and test the remaining water prior to discharge

The sheen floating on top of the water in the tank has been shown to be impacted with PCBs at concentrations ranging from 0.99 to 39 μ g/L. Historically, the water supply draws from the bottom of the tank, with the pumps switching on to refill the tank once the water level in the tank reaches 15 feet. Analytical tests of water collected from points of use in the water supply distribution system have generally not indicated PCBs in excess of the drinking water standard/MCL. On April 16, 2013, water samples were collected from within the tank at various depths below the surface sheen using a bailer, as summarized in Table 7.



Table 7: Results of Tank Water Sampling Conducted on April 16, 2013

		Results (μg/L)		
Sample ID	Location (feet above tank bottom)	Total PCBs Concentration ^a	Reporting Level	
PV11	10	ND	0.25	
PV12	5	0.58	0.25	
PV13	2	0.55	0.25	

ID identification

Results indicate the the water samples had PCB concentrations below the reporting level or slightly above the MCL of $0.50~\mu g/L$. The variability in the results may indicate the presence of PCB on discrete particles or colloids (e.g., pieces of caulking), rather than dissolved PCBs in the water. The water supply draws from the bottom of the tank (far below the impacted sheen) and the tank must be drained down prior to remediation. To avoid the potential for discharging impacted sheen or potential disturbed sediment/particles while draining, the last 5 feet of water (approximately 250,000 gallons) will not be discharged to the distribution system. After draining the water to a depth of 5 feet, water, sheen, and possibly sediment remaining in the tank is proposed to be treated with a GAC treatment system.

Conservatively performing calculations using a PCB concentration of 39 µg/L (the highest concentration detected in the sheen water samples), and a volume of up to 250,000 gallons, the total mass of PCBs in the tank is estimated to be approximately 37 grams. Conservatively assuming an adsorption ratio of 0.5 percent, approximately 17 pounds of GAC would be required. One 55-gallon GAC adsorber contains approximately 200 pounds of GAC. However, to provide sufficient contact time for effective removal, a 55-gallon GAC is recommended to treat water using a maximum flow rate of 10 gpm. Even with multiple units in parallel, this configuration would not meet a reasonable treatment schedule. Therefore, the limiting variable is not the mass of GAC, but rather the flow rate available. Therefore, a larger GAC system will be mobilized to treat the water at a flow rate of 150 gpm. At 150 gpm, approximately 2 days of treatment and discharge may be required to drain the tank. The treated effluent would be further treated using 10 micrometer (µm) bag filters before and after the GAC units, to capture contaminated suspended particles which may escape treatment by or clog the GAC units (Drawing 1).

Once installed, the GAC system will initially be configured to discharge back into the tank, so that the treatment efficiency can be tested. Upon establishment of steady state, samples of the water entering and exiting the GAC system would be collected for rapid turn-around analysis using EPA Method 8082A. Assuming that the testing indicates adequate treatment (i.e., effluent water total PCB concentration less than 0.5 μ g/L), and with DOH and EPA concurrence, the effluent would be discharged to an onsite unlined earthen basin and allowed to infiltrate into the ground surface, or land-applied in a manner that would promote infiltration while preventing surface water runoff. Runoff will not be allowed to leave the site.

The GAC treatment system would remain on site for recycling and treatment of the tank interior decontamination water (Section 2.2.3). The influent stream would be fitted with bag filters (assume 50 µm) to capture the majority of the suspended solids generated during tank decontamination.

At the conclusion of the work, the treatment equipment would be decontaminated and the used GAC and bag filters would be tested and disposed according to applicable regulations.

2.2.2 Further investigate potential PCB-containing material inside the emptied tank

Currently, a relatively small portion of the tank interior is visible and accessible through one access port at the top of the tank. Once the tank is drained, appropriately trained personnel will inspect materials inside the tank to characterize the type, nature, and extent of PCB-containing materials.



^a Total PCBs quantified as decachlorobiphenyl. Samples analyzed by EPA Method 508A.

The following materials, as well as any other potential sources observed, may require characterization and treatment as indicated below, and in accordance with the Sampling Plan (Section 4.0).

- Building Materials: After the tank is emptied, building materials within the tank (potentially including joint sealant caulk and/or concrete sealant) will be inventoried and sampled for total PCBs. All building materials containing PCBs ≥50 mg/kg will be classified as PCB Bulk Product Wastes and will be removed as their continued use is not authorized. Other building materials containing PCBs that could contact drinking water will also be removed. Building materials may be disposed of at a non-hazardous waste landfill that is permitted to accept PCBs at these concentrations (not permitted in the State of Hawaii).
- Sediment: If sediment is present at the base of the tank, it will be sampled for total PCBs. Sediment will be removed from the tank prior to decontamination of the tank interior. For disposal purposes, sediment material with ≥50 mg/kg total PCBs will be containerized and disposed at a Chemical Waste Landfill and sediment material with <50 mg/kg but >1 mg/kg total PCBs will be containerized and disposed at a non-hazardous waste landfill permitted to accept PCB Remediation Waste.
- Smeer Zone: A "smeer zone" may be present on the concrete because of the presence of a sheen on the water surface and the rising and lowering of water levels within the tank. PCB impacted materials in the smeer zone would be handled and disposed in the same manner as sediments. However, if the material on the side of the tanks is observed to extend below 15 feet it may be determined to be a (possibly weathered) sealant, and classified as a PCB Bulk Product Waste if total PCB concentrations are ≥50 mg/kg, as with other building materials.

An addendum to this RAP will be submitted to DOH and EPA after characterization of materials within the tank has been completed. The addendum will include data tables, figures showing sample locations, and extents and quantity estimates of the amounts of materials to be disposed and the landfills to which they will be transported for disposal.

2.2.3 Tank interior decontamination

Bulk removal of identified PCB-containing material will be conducted via mechanical means. This material will be tested prior to removal, and then containerized and shipped to an appropriate (hazardous or non-hazardous) mainland disposal facility.

After bulk removal, a pressure washer will be used to perform double-wash/rinse cleaning of the tank interior, in accordance with TSCA guidance under Subpart S. Specifically, the procedures specified under §761.372 will be utilized and the solvent to be used will be an aqueous solution containing the terpene hydrocarbon d-limonene. Recycling of wash water in accordance with TSCA requirements will be performed (combined with bag filtration and GAC treatment). Final bulk samples of the tank in the vicinity of the removed PCB Bulk Product Wastes will be collected to document conditions upon completion of PCB removal. The number and location of samples will depend on a visual survey of the tank interior following pressure washing and will be subject to regulator review, but anticipated procedures for this sampling are described in Section 4.0. The interior of the tank surface will be encapsulated regardless of the post-decontamination sampling results, such that the surface will not contact drinking water in the future (Sections 2.2.4 and Section 2.2.5).

2.2.4 Coat the Interior Surfaces of the Tank with Two Layers of Selected Coating Materials

Following pressure washing of the tank interior, the inside of the tank will be coated with a high-performance specialty coating applied in two layers of contrasting colors, which will prevent contact between drinking water and the cleaned concrete surfaces (Drawing 2).



Prior to application of coatings to the interior tank surface, the tank will be inspected for any structural deficiencies, cracks, or spalls that may require rehabilitation. Appropriate repairs to the concrete will be conducted as required.

The concrete surface will then be prepared in accordance with SSPC-SP13/NACE No. 6, Surface Preparation of Concrete (SSPC 1997), which defines requirements for the surface preparation of concrete prior to the application of bonded protective coating systems. Generally, the concrete surface will be prepared so that it is free of laitance, loosely adhering concrete, dust, and similar surface contaminants, thereby providing a sound uniform substrate suitable for the application of protective coating systems. The concrete surface profile will be a minimum of CSP-5 as noted in SSPC SP13/NACE No. 6 (SSPC 1997) and by the International Concrete Repair Institute.

Coating materials applied to the interior tank surface will be selected in accordance with *NSF/ANSI Standard 61 Drinking Water System Components* (NSF International 2013), which establishes minimum requirements for materials that contact drinking water. Two such materials, epoxy and polyurethane, are commonly used coating materials that are self-priming and come in a variety of colors. The coating material will be applied in two layers with highly contrasting colors to ensure proper application thickness and to allow for monitoring against wear over time. Highly contrasting colors will be used so that any impacts to the outer layer can be detected before the inner layer is affected, thus preventing contact between the concrete and the drinking water. The total dry film thickness will range between approximately 10 thousandths of an inch (mils) to over 60 mils (i.e., 0.25 millimeter [mm] to over 1.5 mm). Drawing 2 presents the tank encapsulation details. Industry leading coating suppliers include but are not limited to Tenemec, Induron, and Sherman Williams, all of which are represented in Hawaii.

It is anticipated that scaffolding will be erected inside the tank to perform the work. Therefore, access and ventilation will need to be adequately addressed during concrete rehabilitation, surface preparation, and coating activities. In addition to the existing access hatch, construction of a second hatch may be required to allow the contractor to properly ventilate the tank while work is performed. Furthermore, pumps will be loaded through the top access hatch and adequate clearance is essential for contractors to conduct their work. Because the tank is a permit-required confined space, proper certification and documentation will be required prior to any work per Occupational Safety & Health Administration standards.

Once the concrete surface is prepared (i.e. existing materials and coating removed, any structural deficiencies addressed), the construction duration is estimated to be approximately two weeks, depending on access and equipment constraints.

To guard against potential additional impacts, the tank will not be put back into service until the source investigation has been completed.

2.2.5 Long-term inspection, maintenance, and monitoring of encapsulant

An encapsulant will be installed on the interior of the tank following decontamination. The encapsulant will be applied in two contrasting colors so that its integrity can be monitored visually, and corrective action, if necessary, can be taken before the inner layer is affected. The integrity of the encapsulant will be regularly inspected. If the color of the inner coating is visible, the outer coating will be repaired.

2.3 TANK EXTERIOR REMEDIATION

PCB Bulk Product Waste caulk has been identified within joints on the exterior of the tank, and no other suspect materials were identified on the tank exterior. Continued use of this caulk is not authorized, therefore it will be removed using mechanical methods. Following the removal of the caulk, it will be containerized and disposed of as a non-hazardous waste in accordance with the requirements of §761.62.



Concrete panels on the exterior of the tank may be impacted by PCBs due to leaching of PCBs from the caulk into the concrete. However, impacted concrete cannot be removed from the panels as it would compromise the structural integrity of the tank. Thus, following the removal of caulk from the joints, an exterior grade encapsulant will be applied to the exterior of the tank, as indicated in Drawing 2.

Long-term inspection will be performed visually. Maintenance, including reapplication of encapsulant, may be required if wear of the encapsulant is observed.

2.4 **Source Investigation**

Based on the results of previous and recent investigations, caulking and possibly sealant are sources of the PCB contamination. The rare and sporadic detection of PCBs in various points in the water system, including the differing results of analyses of split samples, and the PCB concentrations in water samples collected at different levels within the tank, may suggest the presence of isolated particles or colloids containing PCBs originating from the tank, rather than dissolved PCBs in the water supply system. Therefore, the identified PCB-containing caulking and/or tank sealant may be the sole source of the detected PCBs. However, prior to putting the system back online, any other potential ongoing sources of contamination must be investigated to ensure safe water and prevent the cleaned tank and water system from being re-impacted.

A factory representative recently visited the site to assess the backflow valves that were originally installed to prevent water from the tank from flowing back to the pumphouses. He noted that the valves are made of metal, and appeared to be largely operational, although he could not conclusively state that material could not backflow from the tank to the pumphouses. It remains possible that small particles containing PCBs migrated back to the pumphouses from the tank, causing the sporadic and isolated detections of PCBs at the pumphouses. There are no records of previous sources of PCBs at the wells or pumphouses, and no other current sources upstream of the tank have been identified. However, HEER site investigations have identified two areas warranting further analysis:

- One recent wipe sample collected by HEER from the Well 2 drive shaft above the pump was reported to contain "traces of pentachlorobiphenyl, too low to detect other PCBs, may need ECD for more sensitive detection; oil consistent with some lube oil profiles from other projects." Because no quantitative laboratory results were available, additional wipe sampling will be performed in conformance with 40 CFR §761.123, and analyzed using EPA Method 8082A by a laboratory following ELAP standards. If PCBs are detected, further details will be requested of the lab such as a qualitative characterization of Aroclor mixtures (if any), evidence of weathering or degradation, and any anomalous peaks.
- DOH reported two alternate laboratory results from Well 2 pumphouse multi-incremental soil samples: "presence of PCB (semi-quantitative result)" and "ND (0.0033 ppm RL)." Additional sampling of soil in this area, in conformance with TSCA Subpart N will be proposed as part of the Phase 2 Soil Sampling Plan, to be submitted under separate cover. These samples will be analyzed using EPA Method 8082A by a laboratory following ELAP standards, to determine whether PCBs are present in the soil in this area.

Additionally, during the remedial work, while the water supply system is isolated from Reservoir 1, which has known PCB impacts, water samples will be collected on a routine, weekly basis at the wellhead and downgradient in the distribution system for analysis using EPA Method 508A (in conformance with State drinking water quality requirements). If PCBs are not detected while the system is isolated form the impacted tank, this will be considered evidence that the tank is the source of the PCBs.

If no additional sources are identified, the tank, once remediated, can be put back online after the post remediation water supply testing (Section 2.5). If additional sources are identified, further



remedial acton modifications to this plan may be required, subject to regulator approval, prior to putting the tank back into service.

All investigation findings will be submitted to DOH and EPA, and additional remedial actions or sampling data, if any, will be presented in addenda to this RAP.

2.5 Post Remediation Water Supply Sampling

PUCI will perform initial sampling of the water supply upon completion of remedial activities, at a frequency and at locations to be determined in consultation with regulators. PUCI will also conduct short- medium- and long-term monitoring of the water in the Princeville water supply in accordance with SDWB requirements.

2.6 Phase 2 Investigation

A Phase 2 investigation plan is being developed under separate cover for regulator review and approval. The Phase 2 Investigation will be conducted to delineate the extent of PCB contamination in soil and sediment the following areas:

- 1. Around the tank
- 2. In the vicinity of the former skimmer discharge area
- 3. In the vicinity of abandoned Well #3, near the tank
- 4. In surface soil surrounding the Well #2 pumphouse

Sampling grids in accordance with the soil characterization guidelines established in TSCA Subpart N will be proposed in these areas. In the first area, sampling points will be biased towards the tank as the greatest PCB impacts to soil are likely to be near the base of the tank. Soil samples will be collected from a surface interval of 0 to 0.5 foot, and submitted for analysis by EPA Method 8082A for total Aroclors to an ELAP-certified laboratory. If required, additional soil sampling in the lateral or vertical directions may be performed to further delineate impacts to soil with total PCB concentrations exceeding 1 mg/kg.

Following the delineation of PCB-impacted soil, AECOM will develop an addendum to this RAP for submittal to the DOH and EPA. It is anticipated that the addendum will conform with the requirements specified in §761.61(a). Specifically, characterization sampling will be performed in accordance with TSCA Subpart N and post-excavation verification sampling, if needed, will be performed in accordance with Subpart O. Because no routine tasks are performed in these areas, the areas around the tank and the wells are considered low-occupancy under TSCA. However, given the nature of the site and proximity to the public water supply, the remedial goal for removal of PCB impacts to soil will likely be <1 mg/kg.

2.7 WASTE STORAGE AND HANDLING

A waste storage area will be established at the start of the remedial project. A fenced waste storage area, signed with an M_L mark, will be constructed. Water tight containers meeting federal Department of Transportation requirements for transport of hazardous wastes, will be used to store solid wastes. All waste containers will be labeled with the M_L mark after wastes have been placed in the container. The date that waste storage was begun will also be marked on the container and no wastes will be stored onsite for more than thirty days.

Suspected PCB containing materials will be stored following the procedures specified herein until analytical data is available to determine appropriate disposal methods. Personal protective equipment and rags used for decontamination will be stored separately for disposal as non-hazardous wastes.



Water will be treated onsite using the GAC system and then tested. Water determined to contain <0.5 μ g/L is suitable for unrestricted use per 40 CFR 761.79(b)(1)(iii), and will be reused or allowed to infiltrate onsite. Water will not be allowed to discharge from the site.

2.8 **EQUIPMENT DECONTAMINATION**

All metal equipment used in the performance of sampling or remediation activities and that have contacted potentially PCB-impacted materials will be decontaminated in accordance with the procedures specified in §761.79(c)(2). Specifically, the equipment will either be double wash-rinsed or swabbed with an absorbent pad soaked in a solvent.



3.0 REMEDIAL ACTION DOCUMENTATION

Documentation of the field remediation activities will be performed on a daily basis by the environmental contractor and a field inspector during the performance of the remedial measures. The field inspector will be responsible for completing the documentation described below. A Completion Report (CR) will be completed after the conclusion of the abatement, decontamination, and restoration program, in accordance with 40 CFR §761.125(c)(5). The CR will summarize the remedial activities, and will include the following information.

3.1 FIELD NOTES

The field inspector will maintain a daily log of on-site activities. That log will include, but not be limited to the following.

- Health and safety meetings
- Personnel and equipment on site
- Field procedures and observations
- Abatement, decontamination, and restoration progress
- Sample locations with selection criteria, samples collected, analyses performed, sample handling
- Telephone or other instructions
- Health and Safety issues
- Health and Safety monitoring data including dust monitoring
- · Estimate of wastes generated and stored and waste handling and storage procedures
- Waste transporter information

3.2 **PHOTOGRAPHS**

Daily photographs will be taken of representative activities, such as excavation, decontamination, sampling, and waste handling and storage. Copies of selected photographs with appropriate captions will be included in the CR.

3.3 TRANSPORT AND TREATMENT/DISPOSAL CERTIFICATIONS

Manifests and/or Bills of Lading for the transportation, treatment and disposal of waste materials and certifications of the disposal of the wastes, if necessary, will be obtained from the transporter and from the treatment/disposal facility. Copies of these forms will be included in the CR and records will be maintained in accordance with the requirements as specified in 40 CFR 761 Subpart K (PCB Waste Disposal Records and Reports).

3.4 COMPLETION REPORT

The CR will be prepared upon completion of all remedial activities. The CR will include, at a minimum, the following.

- Site description
- · A description of field procedures
- Verification sample locations and analytical results
- A photographic record of the abatement, decontamination, and restoration activities



- · Waste transport and disposal information including quantities sent to each facility
- Copies of waste manifests, bills of lading, and certificates of disposal

Any additional information required under the EPA Approval shall also be incorporated into the CR.



4.0 SAMPLING AND ANALYSIS PLAN

This sampling and analysis plan has been developed to support the characterization and verification sampling requirements associated with the tank remediation described in this RAP. Additional characterization is still required as part of the tank remediation, but cannot be completed until the tank has been emptied of water. Prior to draining the tank, if a sheen is observed on the water surface, a sample of the sheen will be collected. Once the tank has been drained, sampling will be performed to test for PCBs in the following matrices:

- Residual water drained from the tank
- · Building materials identified within the tank
- Materials potentially impacted by PCB releases within the tank
- Materials potentially impacted by PCB releases external to the tank

Verification sampling will also be performed following the completion of decontamination and remedial activities to document the PCB concentrations, if any, in materials remaining and to determine if remedial goals have been achieved.

Additionally, a Phase 2 (characterization) Sampling Plan is also being prepared to address media and material external to the tank (e.g., nearby soil, materials in or near the pump stations, etc.). The Phase 2 Sampling Plan will be submitted as an addendum to this RAP.

All samples will be collected in-situ and a minimum of three samples of each matrix identified will be collected. All samples submitted will consist of a single phase (oil, water, or solid) and will be analyzed for total PCBs by EPA Method 8082A. For solid matrices, extraction will be performed using either EPA Method 3540 or 3550. For aqueous matrices, extraction will be performed using either EPA Method 3510 or 3520. If a separate oil phase is identified, it will be sampled separately and diluted in accordance with EPA Method 3580 prior to analysis.

Samples of homogenous materials (caulks or sealants) will be collected by cutting or scraping a sample from areas where they are applied. Samples of concrete will be collected following the procedures established in "Standard Operating Procedure for Sampling Porous Surfaces for Polychlorinated Biphenyls (PCBs)," The Office of Environmental Measurement and Evaluation, EPA New England – Region 1, May 5, 2011 (Appendix D).

4.1 Project Objectives and Data Quality Objectives

The primary goals of the sampling and analysis are to characterize (identify and quantify) PCB in tank and related materials, and to determine PCB concentrations in materials to be encapsulated. The presence of PCBs in these materials may be due to addition of PCBs to materials during manufacturing (e.g., caulk or sealant) or from releases from PCB containing materials (e.g., concrete, sediment, or residual water). The sampling plan and data quality objectives (DQOs) are described in the following sections.

4.1.1 Confirm Treatment of Residual Water

Residual water to be drained from the tank will be decontaminated as described in this RAP by passing the water through GAC and filters. Decontaminated water will be stored in a container (probably Reservoir 1) after discharge from the GAC system. After treatment is complete, a minimum of three water samples will be collected at different locations within the tank and tested for total PCB concentrations by EPA Method 8082. If total PCB concentrations are less than 0.5 μ g/L in all three samples the water will be considered decontaminated as per the requirements of §761.79(b)(iii) for unrestricted reuse and discharged as described in the RAP.



4.1.2 Characterize Building Materials and Nature and Extent of PCB Impacts to the Tank

The interior of the tank will be surveyed to evaluate the presence and extents of potentially PCB-containing building materials (e.g., caulking and sealants) present, and the materials they contact (which may therefore be impacted). The survey will also determine whether other materials are present that may be impacted by releases of PCBs (e.g., sediment or smeer zone on the tank interior walls).

For the building materials, a minimum of three samples of each homogenous material will be collected and analyzed for total PCBs by EPA Method 8082A. If any one sample out of the three total for each homogeneous material is found to contain PCBs at concentrations ≥50 mg/kg, that homogenous material will be classified as a PCB Bulk Product Waste. These data will be used to determine the presence of PCB source materials within the tank that may be impacting water stored within the tank and to determine remedial actions.

For the other materials that may be impacted by PCBs, a minimum of three samples of each material will be collected and analyzed for total PCBs by EPA Method 8082A. If any one sample out of the three total for each material is found to contain PCBs at concentration >1 mg/kg, that homogenous area will be classified as a PCB Remediation Waste. Remedial decisions will be made based upon determined PCB concentrations.

For building materials that are in contact with PCB Bulk Product Wastes, a minimum of three samples of each material in contact with each homogenous building material (e.g., concrete in contact with a caulk or sealant) will be collected to determine if the building material has been impacted by releases of PCBs from the PCB Bulk Product Waste. The samples will be collected at a point of contact between the PCB Bulk Product Waste and the building material so as to determine "worst case" PCB concentrations in the building materials. Specifically, if a caulk is present within the tank, samples of the concrete will be collected after the caulk has been removed. Remedial decisions will be made based upon determined PCB concentrations.

For building materials that are in contact with PCB Remediation Wastes, a minimum of three samples of each material in contact with a PCB remediation waste (e.g., concrete in contact with sediment at the base of the tank or smeer zone remaining after the tank is drained) will be collected to determine if the building material has been impacted by releases of PCBs from the PCB Remediation Waste. Remedial decisions will be made based upon determined PCB concentrations.

4.1.3 Characterize Building Materials to Remain After Decontamination

After remediation of the inside and outside of the tank (Section 2.2.4 and Section 2.3), but prior to encapsulation, verification samples will be collected of the concrete to be encapsulated, to document its post-remediation condition. The following samples are proposed:

- Interior samples:
 - Three samples of concrete from tank floor
 - Six samples of concrete from the interior vertical walls as follows:
 - Three samples of concrete at the point of contact between the former location of caulk and concrete (e.g., at the joints)
 - Three samples equidistant between caulked joints
- Exterior samples:
 - Three samples of concrete at the point of contact between the former location of caulk and concrete (e.g., at the joints)
 - Three samples equidistant between caulked joints

Results of this testing, as well as the Phase 2 Sampling, will be made available as it is received, and will be detailed in the Completion Report.



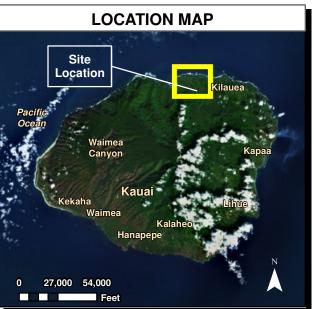
5.0 REFERENCES

- AECOM Technical Services, Inc. (AECOM). 2013. Health and Safety Plan Phase I Soil Sampling, Princeville Utilities Company Inc., Princeville, Kauai, Hawaii. March.
- 40 Code of Federal Regulations (CFR) 700-799. Toxic Substances Control Act.
- 40 Code of Federal Regulations (CFR) 750 and 761. 1998. *Disposal of Polychlorinated Biphenyls (PCBs); Final Rule.* FR Volume 63, No. 124, p. 35383. 29 June.
- Department of Health, State of Hawaii (DOH). 1994. Hawaii Administrative Rules, Title 11, Chapter 58.1: Solid Waste Management Control. January.
- ——. 2009. Technical Guidance Manual for the Implementation of the Hawaii State Contingency Plan. Interim Final. Honolulu: Office of Hazard Evaluation and Emergency Response. 21 June. http://www.hawaiidoh.org/tgm.aspx.
- NSF International. 2013. NSF/ANSI Standard 61, Drinking Water System Components Health Effects. Continuous updates.
- SSPC: The Society for Protective Coatings (SSPC). 1997. SSPC-SP 13/NACE 6 Surface Preparation of Concrete. Issue 97, Part 11.



Figures





LEGEND

 \bigstar

Water Sampling Locations



Well Locations



Roads

NOTES

- 1. Basemap is ArcGIS ESRI Imagery
- 2. Basemap Source for the inset: ArcGIS USA Topo
- 3. Map projection is Hawaii State Plane 4, NAD 1983

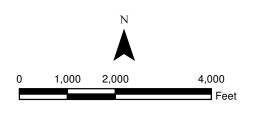
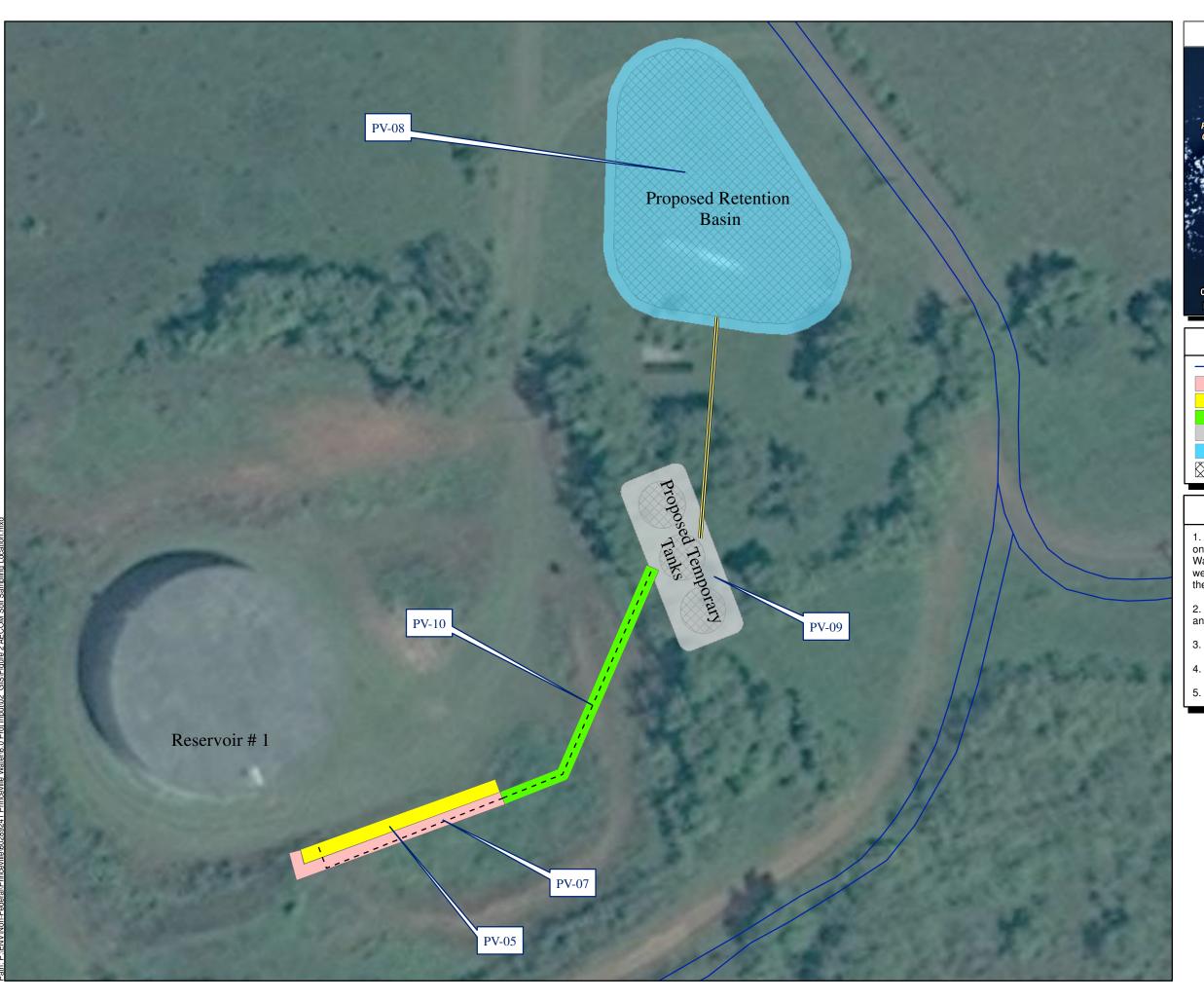
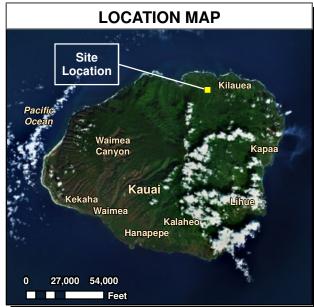
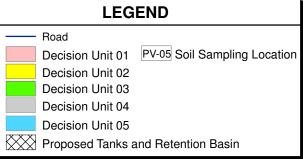


Figure 1 Site Location Map Response Plan Princeville Utilities Company Princeville, Kauai, Hawaii

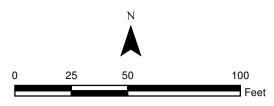






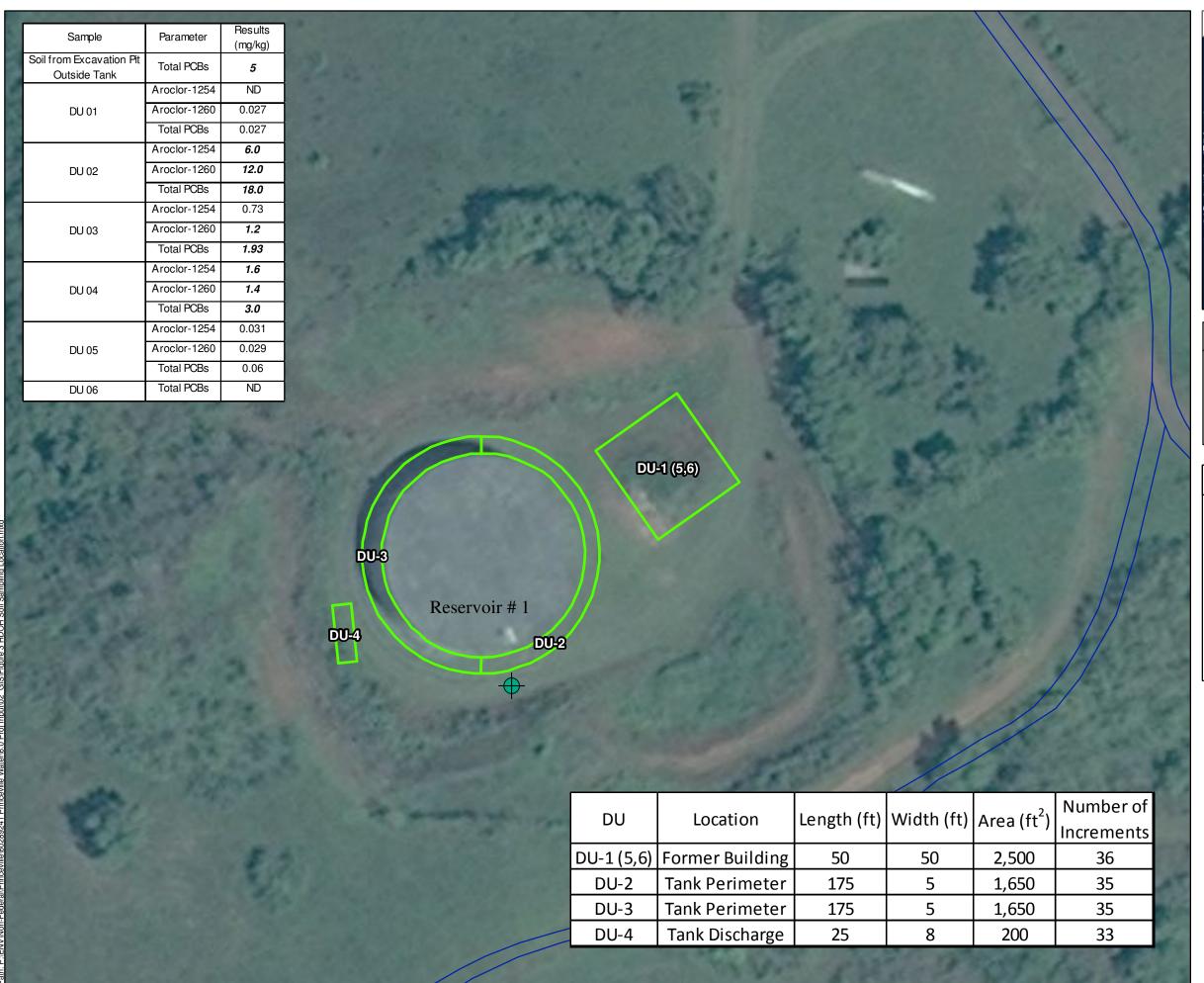
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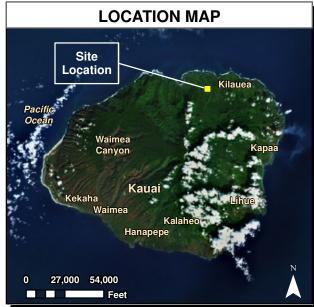
- All locations and dimensions are approximate and based on digitization from Aerial imagery and draft plans from ITC Water Managment, Inc. The position of the decision units were adjusted in the field based on actual location of the features.
- 2. PV-05 denotes locations where soil samples were collected and analyzed.
- 3. Basemap is ArcGIS ESRI Imagery
- 4. Basemap Source for the inset: ArcGIS USA Topo
- 5. Map projection is Hawaii State Plane 4, NAD 1983



(Approximate scale)

Figure 2
AECOM Phase I Soil
Sampling Locations
Response Plan
Princeville Utilities Company
Princeville, Kauai, Hawaii





LEGEND

Road



Excavation Pit Discrete Soil Sample



HDOH Decision Unit

NOTES

- 1. All locations and dimensions are approximate and based on digitization from Aerial imagery and draft plans from ITC Water Managment, Inc.
- 2. Basemap is ArcGIS ESRI Imagery
- 3. Basemap Source for the inset: ArcGIS USA Topo
- 4. Map projection is Hawaii State Plane 4, NAD 1983
- 5. mg/kg = milligram per kilogram
- 6. Bold italics indicate concentrations exceeding 1 mg/kg for Total PCBs.

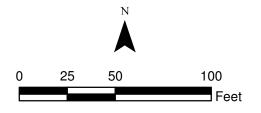


Figure 3
HDOH Multi-incremental Soil
Sampling Locations
Response Plan
Princeville Utilities Company
Princeville, Kauai, Hawaii

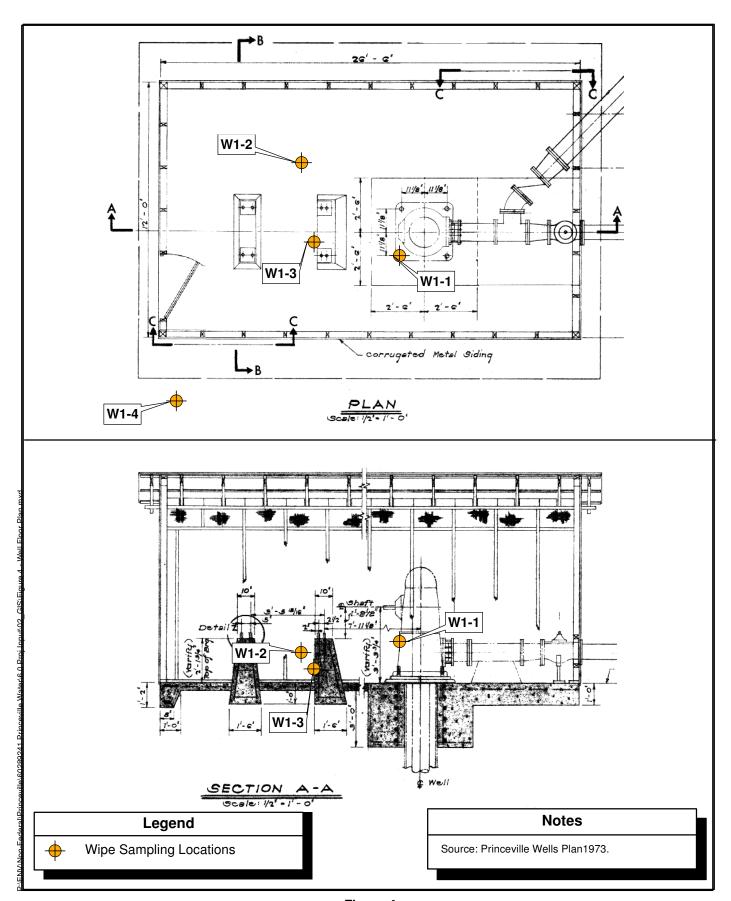


Figure 4
Well #1 sampling Locations
Response Plan
Princeville Utilities Company
Princeville, Kauai, Hawaii

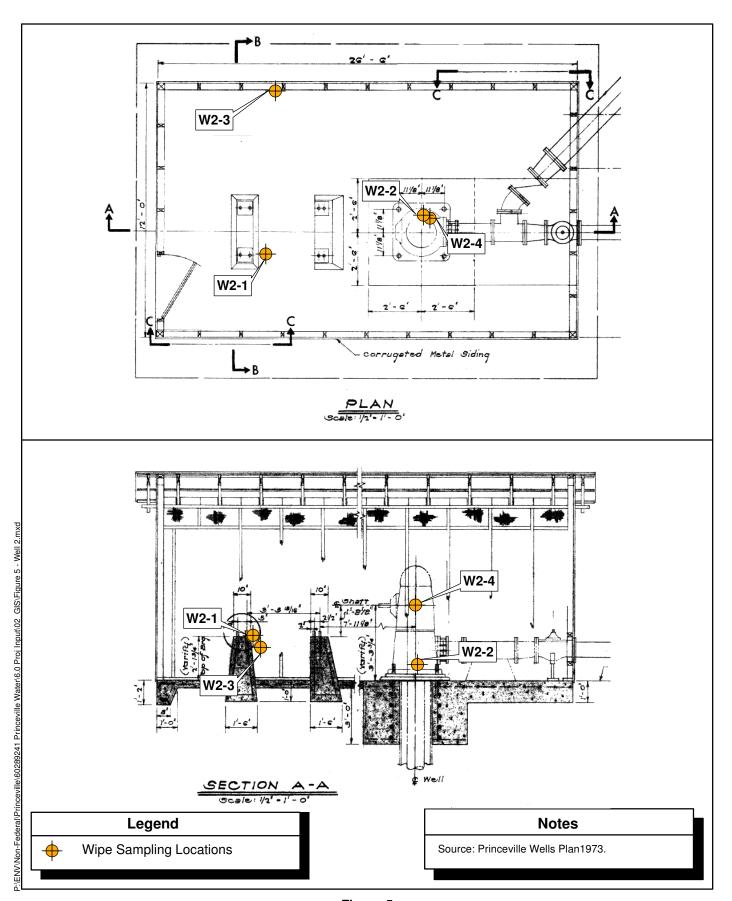
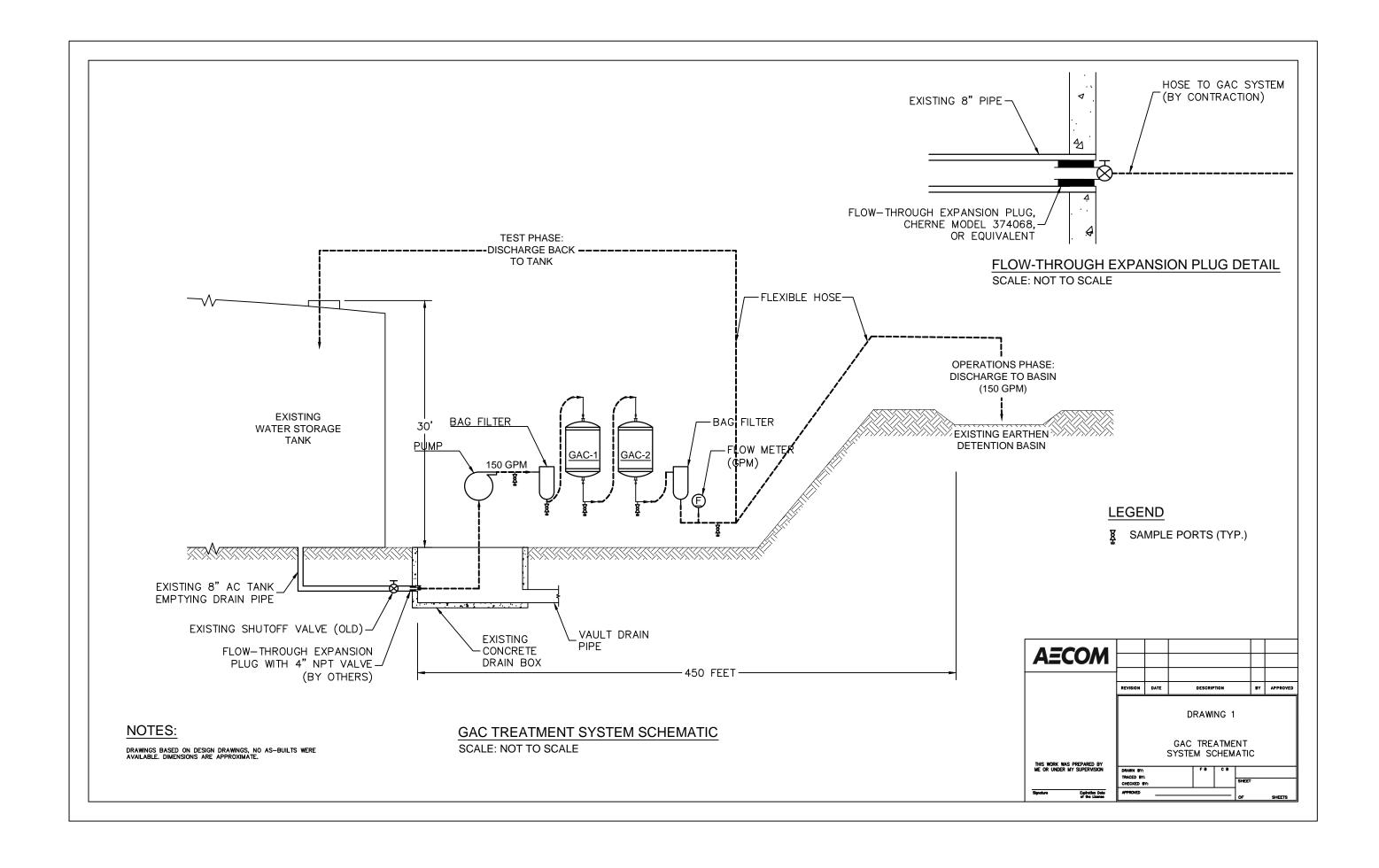
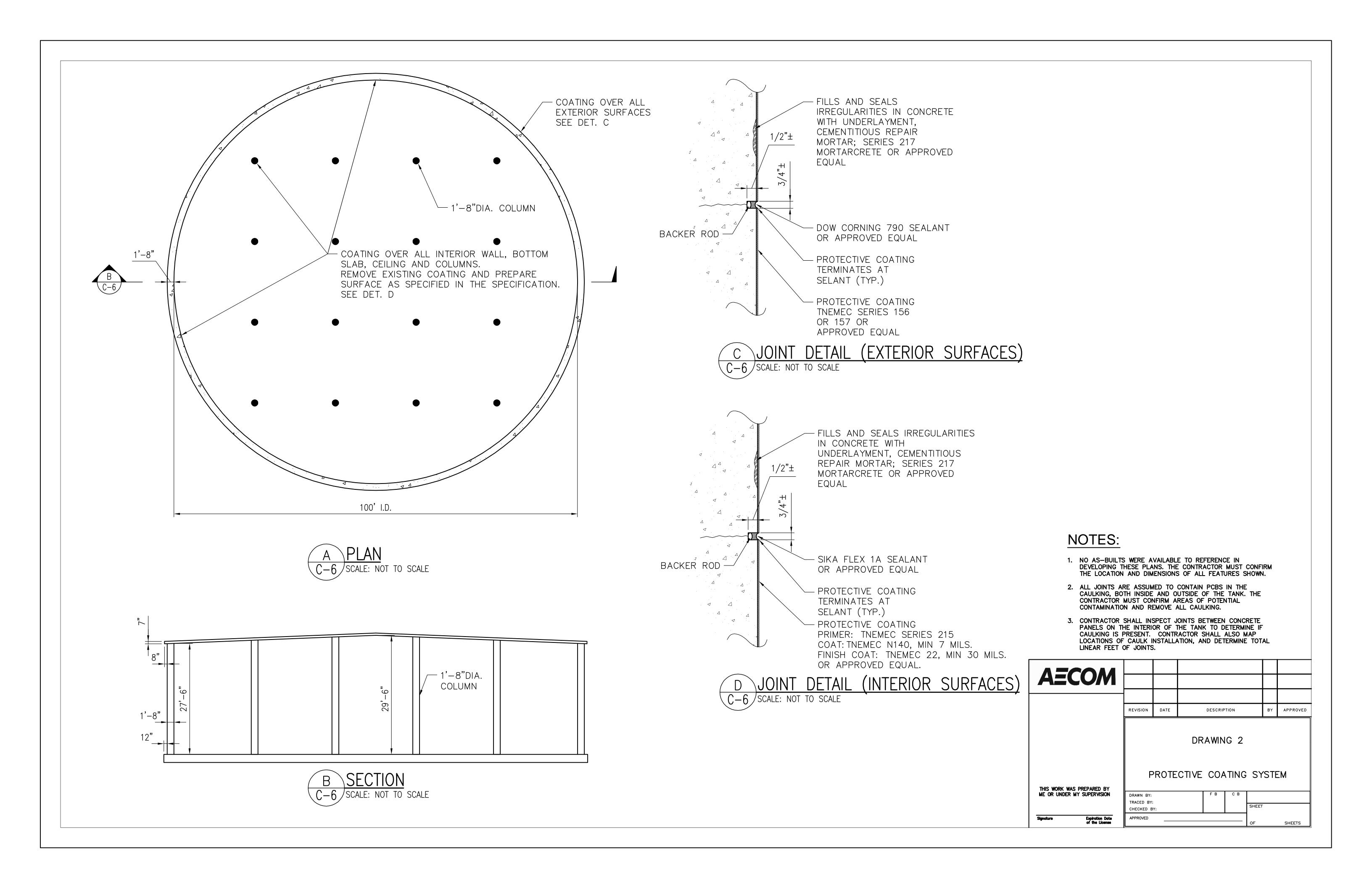


Figure 5
Well #2 Sampling Locations
Response Plan
Princeville Utilities Company
Princeville, Kauai, Hawaii

Drawings





Appendix A Analytical Laboratory Data DOH and PUCI

Sample Point No. 428-004 Facility ID TP002	SAMPLE LAB NO.					
Source Name: Princeville Wells 1 & 2 Chlorinator	C12-10-0019			•		
Sample Location: Tap'After 411 Reservoir	012 10					
Cl ₂ Reading (if Chlorinated) 0.2 mg/L	Contaminants	MCL	ND	NQ	Result	Date
Print Sampler Name Rollan A. Yadao	Contaminants	(µg/L)	(μg/L)	(μg/L)	(μg/L)	Analyzed
Sampler Signature Lift 4 446	A Regulated	(1-8)	(1-8)	(1-5-7)	(1-8-2-)	12224
Date: October 2, 2012 Time: Silsan	Organohalides			Annie and 1, 11, 11, 11, 11, 11, 11, 11, 11, 11,		
Collection Remarks: CLEAR	Hexachlorocyclo- pentadiene	50	<0.05			10/15/12
Relinquished by: Date/Time: 10/2/12 (4) C!4()And	Hexachlorobenzene	1	< 0.05			
Received by: Beverly Furfaro Date/Time: 10/2/6 8:40mm	Lindane	0.2	<0.02			
Relinquished by Date/Time: // Offi	Heptachlor	0.4	<0.01	i Ann y Marken -		····
Received by: Date/Time:	Heptachlor epoxide	0.2	<0.01			
Received by: Date/Time:	Endrin	2	< 0.01			
Delivered to Courier/Airport by: Date/Time:	Methoxychlor	40	< 0.05			
Received by: Date/Time:	Alachlor	2	< 0.05		-	
	Chlordane	2	<0.10	<0.30		
Relinquished by: Date/Time:	Toxaphene	3	<0.50	<1.5		
Received by: Date/Time:	Aroclor 1016	**	<0.26			10/15/12
Delivered to Lab by: Fed Ex 10/3/12 Date/Time: 5:00 Ph	Aroclor 1221	**	<0.19			
Received for Lab by: 10/3/12 Date/Time: 5:00 Ph	Aroclor 1232 Aroclor 1242	**	<0.23		·	
Locked in Refrig. by: R. Sal 10/3/17 Date/Time: 5.05 p2	Aroclor 1248	**	<0.30			
Removed from Refrig. by: Rut Sun Date/Time: 10/15/12 700A	Aroclor 1254	**	<0.33			
	Aroclor 1260	**	<0.36)			/
SDWB Administration Only Copies Done Pos. Result	* Simazine	4	<0.07			
Sent System Chem Pos. Sent NI Office Inor, Mon. T= 5.6 C IS 10/3/12	* Atrazine	3	< 0.05			
Data EnteredViolationSDWB DataNeg. Result	B Unregulated (Phase II)					
GIS DataReduce Mon.	Metribuzin	and a state of the	<0.2			
	Aldrin		< 0.01			
Reported By: Post Pund 10/16/12	Butachlor		< 0.05			
QA Check: / / / / Date	Dieldrin		<0.01			
Tuskeed Mejotiere 10/16/12	Metolachlor		< 0.05	persona a este la		
Forwarded by:	Propachlor		<0.1			
The result for Aroclor 1254 Screen is ND < 0.33 µg/L Trace amounts of Aroclor 1254 may be present in the Sample, the laboratory recommends sending a drinking water sample to a laboratory certified for BPA method 508A to quantitate the amount of PCBs as decachlorobiphenyl. MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na ₂ SO ₃ / 4ml 6N HCl * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.						
amount of PCBs as decachioropiphenyl, ARmis inlinks						





CALSCIENCE

WORK ORDER NUMBER: 12-10-1744

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville / EPA 508A

Attention: Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Approved for release on 11/5/2012 by: Don Burley

Project Manager



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Contents

Client Project Name: Princeville / EPA 508A

Work Order Number: 12-10-1744

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2	Quality Control Sample Data	5 5
3	Glossary of Terms and Qualifiers	6
4	Chain of Custody/Sample Receipt Form	7



Analytical Report



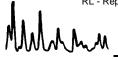
Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 10/25/12 12-10-1744 EPA 508A EPA 508A

Project: Princeville / EPA 508A

Page 1 of 2

Troject. Triffeeville / Er	71 30071						1 0	igo i oi z
Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Well #1 Pre Chlor.		12-10-1744-1-A	10/24/12 08:00	Aqueous	GC 44	11/01/12	11/01/12 18:37	121101L06
Parameter_	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Well #1 Post Chlor.		12-10-1744-2-A	10/24/12 08:05	Aqueous	GC 44	11/01/12	11/01/12 19:01	121101L06
Parameter_	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Well #2 Pre Chlor.		12-10-1744-3-A	10/23/12 13:48	Aqueous	GC 44	11/01/12	11/01/12 19:15	121101L06
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Well #2 Post Chlor.		12-10-1744-4-A	10/23/12 13:45	Aqueous	GC 44	11/01/12	11/01/12 19:30	121101L06
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
411 Sample Point #1		12-10-1744-5-A	10/23/12 13:32	Aqueous	GC 44	11/01/12	11/01/12 19:44	121101L06
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1	<u> </u>	ug/L			
411 Sample Point #2		12-10-1744-6-A	10/24/12 08:15	Aqueous	GC 44	11/01/12	11/01/12 19:59	121101L06
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			







Analytical Report



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 10/25/12 12-10-1744 EPA 508A EPA 508A

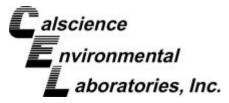
Project: Princeville / EPA 508A

Page 2 of 2

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim		12-10-1744-7-A	10/23/12 13:30	Aqueous	GC 44	11/01/12	11/02/12 11:44	121101L06
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	18	2.5	10		ug/L			
Method Blank		099-14-541-9	N/A	Aqueous	GC 44	11/01/12	11/01/12 20:27	121101L06
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			







Quality Control - LCS/LCS Duplicate

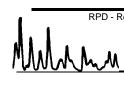


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 12-10-1744 EPA 508A EPA 508A

Project: Princeville / EPA 508A

Quality Control Sample ID	Matrix		Instrument		ate pared	Date Analyzed	t	LCS/LCSD Batch Number	
099-14-541-9	Aqueous		GC 44	11/0	01/12	11/01/12		121101L06	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.5583	80	0.5537	80	80-120	1	0-10	





Glossary of Terms and Qualifiers

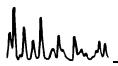


Work Order Number: 12-10-1744

TOIN GIGGI IN	
Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
Е	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

% moisture. All QC results are reported on a wet weight basis.

MPN - Most Probable Number



Calscience Environmental Laboratories, Inc.

	Date	Page
ISE ONLY		10-1744

CHAIN OF CUSTODY RECORD

Calscience En	Calscience Environmental Laboratories,	aborato	Tes, Tes	n						CHANOF	o Z			CUSTODY RECORD
An.	7440 Lincoln Way, Garden Grove, CA 92841-1427 • (714) 895-5494	27 • (714) 895-	5494	# OM	WO#/LAB USE ONLY)NLY				Date				
	Other CA office locations: Concord and San Luis Obispo For courier service / sample drop off information, contact <u>sales@calscience.com</u> or call us.	an Luis Obispo iformation, call us.		•	12-10-1744	111	\$			Page			of	
LABORATORY CLIENT: Princeville Utilities Co	Co., Inc.	nginoodistantiinoodistantiinoodistantiinoodistantiinoodistantiinoodistantiinoodistantiinoodistantiinoodistantii	minima market propriet de la companya de la company	OLIEN	CLIENT PROJECT NAME / NUMBER:	NAME /	NUMBE	ž		SHICOM AT CREEK COS ON THE	g.	P.O. NO.:		
له ا		HI 96722	The country and the country an	PRO	PROJECT CONTACT	CT:					48	SAMPLER(S): (PRINT)	(PRINT)	And the second s
2–6100	,		ZIP											
TEL: E-MAIL:	m1000 i m 110	m o					REC	REQUE	STED	1	ANALYS	SES	THE SECOND CONTRACT OF	BOOK EEN WATER CONTRACTOR OF THE SALES OF TH
TURNAROUND TIME:	11000001111111111111111111111111111111	STANDARD			(†									
COELT EDF GLOBAL ID			LOG CODE		(Ce-C4			(92)						
SPECIAL INSTRUCTIONS:	deservations and a second of the contraction of the	THE CONTRACTOR OF THE CONTRACT			10 (9ED9	or (Prep (503						
			pi	or GRO	or DRO or (C	ATBE (8260)	(8260) səti	Terra Core	(0728) (1808) se	(280	310) or (8270	47/80108) sle		
LAB	SAMPLING	NO.	prese		(p) H	EX / 1 Os (8				8) sg:				
USE SAMPLE ID ONLY	DATE TIME	MATRIX CONT.	nU _Э лЧ							ЭЫ			-	
Well #1 Pre Chlor.	10/24/12 B:00A													
#	10/24/n B:05A													
	10/23/12 1.40P													
4 Well #2 Post Chlor.	10/23/12 1:45 P													
	10/23/12 1:328													
6 411 Sample Point #2	10/24/12 8:15A													
	10/23/12 1:30P										١			
													-	
Remodified by:)(Signature)		LL.	Received by: (Signature/Affiliation)	nature/Aff	4	P					Date;	21/12		Time: 8.3/4
Relinquished by: (Signature)		<u> </u>	Received by: (Signature/Affiliation)	nature/Aff	iliation)						Date:	1,5-1,3	Time	1 (1
			/ / X-//	100	The same					•				•

DISTRIBUTION: White with final report, Green and Yellow to Client. Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

Regeived by: (Signature/Affiliation)

Relinquished by: (Signature)

Page 7 of 9

01/01/12 Revision



From: (808) 826-6100

Michael Loo

Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221

Princeville, HI 96722

Origin ID: LIHA



BILL SENDER

SHIP TO: (714) 895-5494

Bob Stearns

Calscience Environmental Lab. 7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ship Date: 24OCT12 ActWgt: 40.0 LB CAD: 7665451/INET3300

Dims: 18 X 10 X 13 IN

Delivery Address Bar Code



Ref# Invoice # P0# Dept#

TRK# 0201

7939 1553 6134

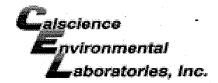
THU - 25 OCT A1 PRIORITY OVERNIGHT

WZ APVA

92841 CA-US SNA







WORK ORDER #: **12-10-** □ □ □ □ □

SAMPLE RECEIPT FORM Cooler / of /

CLIENT: PRINCIPILLE MTILITIES CO: INC.	DATE: _	10/25/12
--	---------	----------

TEMPERATURE: Thermometer ID: SC4 (Criteria: 0.0 °C – 6.0 °C, not frozen)
Temperature <u>3 • 7 °C - 0.3 °C (CF) = 3 • 4 °C □ Blank □ Sample</u>
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).
☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.
☐ Received at ambient temperature, placed on ice for transport by Courier.
Ambient Temperature: Air Filter Initial: Jit J
CUSTODY SEALS INTACT:
□ Cooler □ □ No (Not Intact) ☑ Not Present □ N/A Initial: ①
□ Sample □ □ No (Not Intact) ☑ Not Present Initial:
SAMPLE CONDITION: Yes No N/A
Chain-Of-Custody (COC) document(s) received with samples
COC document(s) received complete
Collection date/time, matrix, and/or # of containers logged in based on sample labels.
No analysis requested. Not relinquished. No date/time relinquished.
Sampler's name indicated on COC
Sample container label(s) consistent with COC
Sample container(s) intact and good condition
Proper containers and sufficient volume for analyses requested
Analyses received within holding time
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours □ □ □
Proper preservation noted on COC or sample container
☐ Unpreserved vials received for Volatiles analysis
Volatile analysis container(s) free of headspace □ □ □ ✓
Tedlar bag(s) free of condensation□ □ □ □
CONTAINER TYPE:
Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □EnCores® □TerraCores® □
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp ☑1AGB □1AGBna₂ □1AGBs
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □1PB na □500PB
□250PB □250PB n □125PB □125PB znna □100PJ □100PJ na ₂ □ □ □ □ □
Air: □Tedlar [®] □Canister Other: □ Trip Blank Lot#: Labeled/Checked by: 1
Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: Preservative: h: HCL n: HNOs nas: NacSoOs na: NacH n: HsPOs s: HsPOs us Ultra-pure znna: ZnAcs+NacH f: Filtered Scanned by:

' DEPARTMENT OF HEALTH LABORATORIES – SAFE DRINKIN	G WATER BRANCH CHAI	N OF CUSTODY & SY!	NTHETI	C ORGA	NIC CH	<u>IEMICAI</u>	S REPORT
Sample Point No. 428 - 205 204 Facility ID		SAMPLE LAB	NO.				
Source Name: fractille Vell 4 Chlarade Sample Location: Tap After The After	Son Proceville	C12-11-003		\dashv			
Sample Location: Tal Harry The A Level	Join Su Tap Affe	C12-11 003	6				
Cl2 Reading (if Chlorinated) Dol mg/L	411 ROONDE	Contaminants	MCL	ND	NQ	Result	Date
Print Sampler Name Chales Catalog		Contaminants	(μg/L)	μg/L)	(μg/L)	result (μg/L)	Analyzed
Sampler Signature		A Regulated				<u> </u>	
Date: 11 /14/12 Time: 9:2		Organohalides Hexachlorocyclo-	50	<0.05			- / /
Collection Remarks: Suplicate taken		pentadiene	30	\0.03			11/15/12
Relinquished by: Date/Time:		Hexachlorobenzene	1	< 0.05			
Received by: Date/Time:		Lindane	0.2	<0.02			
Relinquished by: Date/Time:		Heptachlor	0.4	< 0.01	Marie S		
		Heptachlor epoxide	0.2	< 0.01			
Received by: Date/Time:		Endrin	2	< 0.01			
Delivered to Courier/Airport by:	11:20	Methoxychlor	40	<0.05			
Received by: 2 To Date/Time:	2 - 1	Alachlor	2	< 0.05			
2 Mar 1115/12	7954 9M	Chlordane	2	< 0.10	<0.30		
Relinquished by: / / Date/Time:		Toxaphene	3	<0.50	<1.5		, ,
Received by: Date/Time:		Aroclor 1016	**	<0.26	THE RES		11/15/12
Delivered to Lab by: Date/Time:	in in-	Aroclor 1221	**	<0.19			
Received for Lab by: Rut Gut Date/Time:	-10.15 pm	Aroclor 1232	**	<0.23			
000000	11/15/12 10:15/20	Aroclor 1242	**	<0.26			
Locked in Refrig. by: Date/Time:	· ' [L	Aroclor 1248	**	<0.30			
Removed from Refrig. by: Date/Time:		Aroclor 1254	**	<0.33			
		Aroclor 1260	**	<0.36			
SDWB Administration Only Copies Done Pos. Result		* Simazine	4	< 0.07			
Sent System Chem Pos. T= 10 C Sent NI Office Inor. Mon.		* Atrazine	3	< 0.05			
		B Unregulated (Phase II)					
GIS Data Reduce Mon.	11	Metribuzin		<0.2			
		Aldrin		<0.01			
Reported By: Rut Pin	Date 11/16/12	Butachlor		<0.05			
Reported By: Part Pins QA Cheek: I leepobane I leepobane	Date	Dieldrin		<0.01			
Kuliuid Keepobane	11/16/12	Metolachlor		<0.05			
Forwarded by:	Date 11-16-12	Propachlor		<0.1			
		MCL = Maximum Contaminan Method: EPA 508.1 Sample * Using NP detector ** Any decachlorobiphenyl by method	Dechlorinati positive resu	ilt would req	ation: 50 mg uire analysis	NQ = Not Qu Na ₂ SO ₃ / 4ml for total PCB ection limits a	6N HCl as

equivalent of 0.5 ug/L decachlorobiphenyl.

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCII CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS REPORT

Sample Point No ₂	Facility ID				
Source Name: Sinced! le	rce Name: Vincedille				
Sample Location: Maka, C	ample Location: Maken Club Colfage				
Cl2 Reading (if Chlorinated)					
Print Sampler Name _ Stell	a Matsudg				
Sampler Signature &	en .				
Date: /1/14/12	Time: 9.50				
Collection Remarks: Special Saugling					
Relinquished by:	Date/l'ime:				
Received by:	Date/l'ime:				
Relinquished by:	Date/Time:				
Received by:	Date/Time:				
Delivered to Courier/Airport by:	Date/Fime: //:30				
Received by:	(1/15 12) 9:54 gm				
Relinquished by:	Date/Time:				
Received by:	Date/Time:				
Delivered to Lab by: K Tulin	Date/Dime: 10-15 92				
Received for Lab By: Rite Page	Date/Time: 11/15/12 10:15A				
Locked in Refrig. by:	Date/Time:				
Removed from Refrig. by:	Date/Time:				
SDWB Administration Only Copies Done Pos. Result Sent System Chem Pos. Sent NI Office Inor. Mon. Data Entered Violation SDWB Data Neg. Result GIS Data Reduce Mon.	ab Comments $T = 1.0^{\circ} C$				
Reported By: Put Gul	Date 11/16/12				
QA Check: Kulund Heyr Can	Date ///6//2				
Forwarded by:	1 Date 16-12				

SAMPLE LAB NO.

C12-11-0037

Contaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides	(μg/ Σ)	(µg/L)	(μg/ι)	(μg/ιΔ)	Analyzeu
Hexachlorocyclo- pentadiene	50	<0.05			4/15/12
Hexachlorobenzene	1	< 0.05	NO DA		
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	< 0.05	ä		
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	< 0.50	<1.5		
Aroclor 1016	**	<0.26	TO THE		11/15/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	(<0.36)			
* Simazine	4	<0.07			
* Atrazine	3	< 0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2	THE EXP		
Aldrin		<0.01	NO THE		
Butachlor	Miles de	<0.05		1, 11 11 11	
Dieldrin		<0.01			
Metolachlor		< 0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable

Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

* Using NP detector ** Any positive result would require analysis for total PCB as
decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration
equivalent of 0.5 ug/L decachlorobiphenyl.

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS Sample Point No. 428-901 Facility ID

Source Name: Fince Ville

Sample Location: 5t. Fence Hatel Pool Deck

Cl2 Reading (if Chlorinated) 0. 2 mg/L SAMPLE LAB NO. C12-11-0038 Print Sampler Name Steven Matsida Contaminants **MCL** ND NQ Result (µg/L) (µg/L) (µg/L) $(\mu g/L)$ Sampler Signature A Regulated Date: _///4/12 **Organohalides** Collection Remarks: Hexachlorocyclo-50 < 0.05 pentadiene Relinquished by: Hexachlorobenzene Date/Time: < 0.05 Lindane 0.2 < 0.02 Received by: Date/Time: Heptachlor 0.4 < 0.01 Relinquished by: Date/Time: Heptachlor epoxide 0.2 < 0.01 Received by: Date/Time: Endrin 2 < 0.01 Methoxychlor 40 < 0.05 Delivered to Courier/Airport by: Alachlor 2 < 0.05 Date/Time: Received by: 2 Chlordane < 0.10 < 0.30 Relinquished by: Date/Time: Toxaphene 3 < 0.50 <1.5 Received by: Date/Time: Aroclor 1016 ** <0.26 ** Aroclor 1221 < 0.19 Delivered to Lab by: Date/Kime: Aroclor 1232 ** < 0.23 Received for Lab by: Date/Time: ** Aroclor 1242 < 0.26 Locked in Refrig. by: Date/Time: Aroclor 1248 ** < 0.30 Removed from Refrig. by: Aroclor 1254 ** < 0.33 Date/Time: Aroclor 1260 ** < 0.36 Lab Comments **SDWB Administration Only** T= 100 * Simazine 4 < 0.07 Copies Done Pos. Result Sent System Chem Pos. * Atrazine 3 < 0.05 Sent NI Office Inor. Mon. **B** Unregulated Data Entered Violation (Phase II) SDWB Data Neg. Result **GIS Data** Reduce Mon. Metribuzin < 0.2 Aldrin < 0.01 Reported By: Raw Pub Butachlor < 0.05 Dieldrin < 0.01 Metolachlor < 0.05 Forwarded by: Propachlor < 0.1 MCL = Maximum Contaminant Level

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

* Using NP detector ** Any positive result would require analysis for total PCB as
decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration
equivalent of 0.5 ug/L decachlorobiphenyl.

Date

Analyzed

Sample Point No. 478-004 Facility ID	SAMPLE LAI	B NO.				
Source Name: Ponceville	C12-11-005	50				
Sample Location: Tay After 411 Leservoir						
Cl2 Reading (if Chlorinated)mg/L	Contaminants	MCL	ND	NQ	Result	Date
Print Sampler Name Skulp Malsada		(μg/L)	(μg/L)	(µg/L)	(μg/L)	Analyzed
Sampler Signature Date:i/_/9//5 Time:9/35	A Regulated					
Collection Remarks: Dyol, Carle Tokeo	Organohalides Hexachlorocyclo-	50	<0.05			
Confection Remarks. PGF1, CGF2 19807	pentadiene] 50	~0.03			
Relinquished by: Date/Time:	Hexachlorobenzene	1	< 0.05			
Received by: Date/Time:	Lindane	0.2	<0.02			
Relinquished by: Date/Time:	Heptachlor	0.4	<0.01			
	Heptachlor epoxide	0.2	<0.01			
Received by: Date/Time:	Endrin	2	<0.01	_		
Delivered to Courier/Airport by 11/9/12 //50	Methoxychlor	40	< 0.05			
Received by: / / Ndc/Itimes	Alachlor	2	< 0.05			
Man 400 May 10 112 530	Chlordane	2	<0.10	<0.30		
Relinquished by: Date/Time:	Toxaphene	3	< 0.50	<1.5		
Received by: Date/Time:	Aroclor 1016	**	(<0.26)			11/21/12
Delivered to Lab by: / Date/Time;	Aroclor 1221	**	<0.19			1
Vant fawang 1/20/12 850 1	Aroclor 1232	**	<0.23			
Received for Lab by: Ret Ful Date/Time: 11/20/12 850 A	Aroclor 1242	**	<0.26	-		
Locked in Refrig. by: Date/Time:	Aroclor 1248	**	<0.30	-		
Removed from Refrig. by: Date/Time:	Aroclor 1254	**	<0.33	-		
	Aroclor 1260	**	<0.36			2./
SDWB Administration Only Copies Done Pos. Result Lab Comments	* Simazine	4	<0.07	-		<u> </u>
Sent System Chem Pos.	* Atrazine	3	<0.05	-		
Sent NI Office Inor. Mon. Data Entered Violation	B Unregulated					
SDWB DataNeg. Result	(Phase II)					
GIS DataReduce Mon.	Metribuzin		<0.2			
Reported By: Date Date	Aldrin		<0.01			
Reported By: Pat Pin Date 11/21/12	Butachlor		<0.05			
QA Checket Date	Dieldrin		<0.01			
Relicied/Regolique 11/21/12	Metolachlor		<0.05			
	Propachlor		<0.1			
	MCL = Maximum Contaminan Method: EPA 508.1 Sample * Using NP detector ** Any	Dechlorinati	ND = Not De on / Preserva It would req	ition: 50 mg	NQ = Not Quantum Na2SO3 / 4ml for total PCB and the second	6N HCl

decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration

equivalent of 0.5 ug/L decachlorobiphenyl.

• DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS REPORT

Sample Point No.	Facility ID	SAMPLE LAB NO.								
Source Name: Fracelus	A . L .	C12-11-0051								
Sample Location: Makai Cl2 Reading (if Chlorinated)	Carrage									
Print Sampler Name Solo	Maksudy	Contaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (μg/L)	Date Analyzed			
Sampler Signature Date: 11/9/19	Time: 9:55	A Regulated Organohalides	(μg/ Σ)	(µg/L)	(μg/L)		Analyzed			
Collection Remarks:		Hexachlorocyclo- pentadiene	50	<0.05						
Relinquished by:	Date/Time:	Hexachlorobenzene	1	<0.05						
Received by:	Date/Time:	Lindane	0.2	<0.02						
Relinquished by:	Date/Time:	Heptachlor	0.4	<0.01						
Reiniquisited by:	Date/Time:	Heptachlor epoxide	0.2	<0.01						
Received by:	Date/Time:	Endrin	2	<0.01						
Delivered to Courier/Airport by:	11 Pate Pine: 1150 a.	Methoxychlor	40	<0.05						
Received by:	Néto/Timot	Alachlor	2	< 0.05						
Mand answer	na 1/1/20/12 030	Chlordane	2	<0.10	<0.30					
Relinquished by:	Date/Time:	Toxaphene	3	<0.50	<1.5					
Received by:	Date/l'ime:	Aroclor 1016	**	<0.26			11/21/12			
Delivered to Lab by:	, pate/Time:	Aroclor 1221	**	<0.19						
	Date/Time: 1 2 50	Aroclor 1232	**	<0.23						
June 0 1000	Date/Time: 11/20/12 850	Aroclor 1242	**	<0.26						
Locked in Refrig. by:	Date/Time:	Aroclor 1248	**	<0.30						
Removed from Refrig. by:	Date/Time:	Aroclor 1254	**	<0.33						
		Aroclor 1260	**	<0.36						
SDWB Administration Only Copies Done Pos. Result	o Comments	* Simazine	4	< 0.07	_					
Sent System Chem Pos. Sent NI Office Inor. Mon.		* Atrazine	3	<0.05						
Data EnteredViolationSDWB DataNcg. Result		B Unregulated (Phase II)								
GIS DataReduce Mon.		Metribuzin		<0.2		-				
Reported By:	Date / /	Aldrin		<0.01						
Kitt Vin	Date 11/21/12	Butachlor		<0.05						

Reported By: Lett Pin	Date 11/21/12
QA Check: Lechard Keep have	Date 1//21/12
Forwarded by:	12 Date 11-21-12

SAMPLE LAB NO.

Contaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides			(1-8)	(1-8)	
Hexachlorocyclo- pentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01		, -	
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			-
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		, ,
Aroclor 1016	**	<0.26			1/21/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36		·	
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01		· · · · · · · · · · · · · · · · · · ·	
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

Sample Point No. 40-90 Source Name: Conceville Sample Location: St Pegis to Cl2 Reading (if Chlorinated) O. 7 Print Sampler Name Steven Sampler Signature Date: // 19 12 Collection Remarks:	Facility ID Time: Facility ID Time: Facility ID Facility ID
Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Received by: Relinquished by:	Date/Pime: 11.50 41. 12 830 Date/Time:
Received by:	Date/Time:
Defivered to Lab by: Received for Lab by: Full full	11/20/12 850 Date/Time: 4/20/12 850
Locked in Refrig. by:	Date/Γime:
Removed from Refrig. by:	Date/Time:
SDWB Administration Only Copies Done Pos. Result Sent System Chem Pos. Sent NI Office Inor. Mon. Data Entered Violation SDWB Data Neg. Result GIS Data Reduce Mon.	nents
Reported By: June Pund	Date 11/21/12
Forwarded by:	11/21/12- Date 11-21-12

SAMPLE LAB NO.

C12-11-0052

Contaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides				- N O /	
Hexachlorocyclo- pentadiene	50	<0.05			
Hexachlorobenzene	1	< 0.05			******
Lindane	0.2	< 0.02			
Heptachlor	0.4	< 0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			***
Alachlor	2	< 0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			11/21/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			.//
* Simazine	4	< 0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05			· · · · · · · · · · · · · · · · · · ·
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable

Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

* Using NP detector ** Any positive result would require analysis for total PCB as
decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration
equivalent of 0.5 ug/L decachlorobiphenyl.





CALSCIENCE

WORK ORDER NUMBER: 12-11-1514

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: PCBs

Attention: Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Approved for release on 11/30/2012 by: Don Burley

Project Manager



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

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Email your PM >



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Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 11/21/12 12-11-1514 EPA 508A EPA 508A

Project: PCBs Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Water (tap at 411 tank)		12-11-1514-4-A	11/20/12 10:39	Aqueous	GC 44	11/28/12	11/30/12 14:59	121128L03
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Water (Makai Club)		12-11-1514-5-A	11/20/12 10:00	Aqueous	GC 44	11/28/12	11/30/12 15:13	121128L03
Parameter	Result	RL	<u>DF</u>	Qual	Units			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Water (St. Regis Pool)		12-11-1514-6-A	11/20/12 09:42	Aqueous	GC 44	11/28/12	11/30/12 15:28	121128L03
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	Units			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Method Blank		099-14-541-10	N/A	Aqueous	GC 44	11/28/12	11/30/12 14:45	121128L03
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			









Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method:

Units:

11/21/12 12-11-1514 EPA 3580A EPA 8082 ug/kg

Project: PCBs

Page 1 of 1

											. 494		<u>.</u>
Client Sample Number				Sample nber		Date/Time Collected	Matrix	Instrument	Da Prepa		Date/Time Analyzed	QC Bat	ch ID
Old Pre lube			12-11	-1514-1	-A	11/20/12 09:37	Oil	GC 58	11/26	6/12	11/28/12 15:01	121126	L05
Comment(s): -Results w	ere evaluated to the	he MDL (D	L), conc	entration	ns >= to	the MDL (DL)	but < RL (LOQ), if found	d, are qua	alified wi	th a "J" flag		
<u>Parameter</u>	Result	<u>RL</u>	<u>MDL</u>	DF	Qual	<u>Parameter</u>			Result	<u>RL</u>	MDL	<u>DF</u>	Qual
Aroclor-1016	ND	1000	290	1		Aroclor-1248			ND	1000	290	1	
Aroclor-1221	ND	1000	260	1		Aroclor-1254			ND	1000	240	1	
Aroclor-1232	ND	1000	210	1		Aroclor-1260			ND	1000	230	1	
Aroclor-1242	ND	1000	250	1		Aroclor-1262			ND	1000	250	1	
Surrogates:	REC (%)	Control Limits	Qu	<u>ıal</u>		Surrogates:			REC (%	<u>)</u> Cont		<u>ual</u>	
Decachlorobiphenyl	50	50-130				2,4,5,6-Tetra	chloro-m-	Xylene	99	50-13	30		
Current Pre-lube			12-11	-1514-2	?-A	11/20/12 10:31	Oil	GC 58	11/26	6/12	11/28/12 15:19	121126	L05
Comment(s): -Results w	ere evaluated to the	he MDL (D	L), conc	entration	ns >= to	the MDL (DL)	but < RL (LOQ), if found	d, are qua	alified wi	th a "J" flag		
<u>Parameter</u>	Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qual	<u>Parameter</u>			Result	RL	MDL	<u>DF</u>	Qua
Aroclor-1016	ND	1000	290	1		Aroclor-1248			ND	1000	290	1	

<u>Parameter</u>	Result	<u>KL</u>	<u>MDL</u>	<u>DF</u>	Qual	<u>Parameter</u>	Result	<u>KL</u>	MDL	<u>DF</u>	Qua
Aroclor-1016	ND	1000	290	1		Aroclor-1248	ND	1000	290	1	
Aroclor-1221	ND	1000	260	1		Aroclor-1254	ND	1000	240	1	
Aroclor-1232	ND	1000	210	1		Aroclor-1260	ND	1000	230	1	
Aroclor-1242	ND	1000	250	1		Aroclor-1262	ND	1000	250	1	
Surrogates:	REC (%)	Control Limits	<u>l Qual</u> <u>S</u>			Surrogates:	REC (%)	Control Limits	<u>Q</u>	<u>lual</u>	
Decachlorobiphenyl	62	50-130				2,4,5,6-Tetrachloro-m-Xylene	100	50-130			

Method Blank	096-01-013-553	N/A	Solid	GC 58	11/26/12	11/28/12 121126L05 14:07

Comment(s):	-Results were evaluated to the MDL (DI) concentrations	>- to the MDL ([DL) but \sim RL (LOO)	if found are ou	ralified with a " I	" flag

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qual	<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qual
Aroclor-1016	ND	1000	290	1		Aroclor-1248	ND	1000	290	1	
Aroclor-1221	ND	1000	260	1		Aroclor-1254	ND	1000	240	1	
Aroclor-1232	ND	1000	210	1		Aroclor-1260	ND	1000	230	1	
Aroclor-1242	ND	1000	250	1		Aroclor-1262	ND	1000	250	1	
Surrogates:	REC (%)	Control	Qu	<u>ıal</u>		Surrogates:	REC (%)	Control	Qua	<u>l</u>	
Decachlorobiphenyl	122	<u>Limits</u> 50-130				2,4,5,6-Tetrachloro-m-Xylene	121	<u>Limits</u> 50-130			

RL - Reporting Limit ,

DF - Dilution Factor , Qual - Qualifiers







Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method:

Units:

11/21/12 12-11-1514 **EPA 3510C** EPA 8082

ug/L

Project: PCBs

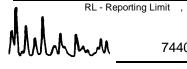
Page 1 of 1

Client Sample Numb	per			Sample nber		Date/Time Collected	Matrix	Instrument	Dat Prepa		Date/Time Analyzed	QC Bat	ch ID
Skim Sample			12-11	-1514-3-	Α	11/20/12 10:49	Aqueous	GC 58	11/26	/12	11/27/12 17:46	121126	L03
Comment(s): -F	Results were evaluated to the	ne MDL (D	L), conc	entration	s >= to	the MDL (DL)	but < RL (L	OQ), if found	d, are qua	lified w	ith a "J" flag) .	
<u>Parameter</u>	Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qual	<u>Parameter</u>			Result	<u>RL</u>	MDL	<u>DF</u>	Qual
Aroclor-1016	ND	1.0	0.29	1		Aroclor-1248	8		ND	1.0	0.20	1	
Aroclor-1221	ND	1.0	0.28	1		Aroclor-125	4		ND	1.0	0.23	1	
Aroclor-1232	ND	1.0	0.25	1		Aroclor-1260	0		0.99	1.0	0.26	1	J
Aroclor-1242	ND	1.0	0.18	1		Aroclor-1262	2		ND	1.0	0.26	1	
Surrogates:	REC (%)	Control Limits	Qu	<u>ıal</u>		Surrogates:			REC (%) <u>Con</u> Limi		<u>ual</u>	
Decachlorobiphenyl	109	50-135				2,4,5,6-Tetra	achloro-m-X	ylene	91	50-1	135		
Method Blank			099-1	2-533-71	12	N/A	Aqueous	GC 58	11/26	/12	11/27/12 17:29	121126	L03

Comment(s): -Results were evaluated to the MDL (DL), concentrations >= to the MDL (DL) but < RL (LOQ), if found, are qualified with a "J" flag.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qual	<u>Parameter</u>	Result	<u>RL</u>	<u>MDL</u>	<u>DF</u>	Qual
Aroclor-1016	ND	1.0	0.29	1		Aroclor-1248	ND	1.0	0.20	1	
Aroclor-1221	ND	1.0	0.28	1		Aroclor-1254	ND	1.0	0.23	1	
Aroclor-1232	ND	1.0	0.25	1		Aroclor-1260	ND	1.0	0.26	1	
Aroclor-1242	ND	1.0	0.18	1		Aroclor-1262	ND	1.0	0.26	1	
Surrogates:	REC (%)	Control	Qual			Surrogates:	REC (%)	Control	<u>Qua</u>	<u> </u>	
Decachlorobiphenyl	109	<u>Limits</u> 50-135				2,4,5,6-Tetrachloro-m-Xylene	98	<u>Limits</u> 50-135			







Quality Control - Spike/Spike Duplicate



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method:

11/21/12 12-11-1514 EPA 3580A EPA 8082

Project PCBs

Quality Control Sample ID			Matrix	In	strument		oate pared	Date Analyzed		ISD Batch umber
Current Pre-lube			Oil	G	C 58	11/2	26/12	11/28/12	121	126\$05
<u>Parameter</u>	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Aroclor-1016	ND	2000	1910	96	1650	82	50-135	15	0-25	
Aroclor-1260	ND	2000	1650	82	1670	84	50-135	1	0-25	



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method:

12-11-1514 EPA 3580A EPA 8082

Project: PCBs

Quality Control Sample ID 096-01-013-553	Matrix Solid			Date Prepared 11/26/12		Date Analyzed 11/28/12		LCS/LCSD Batch Number 121126L05	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Aroclor-1016	2000	2070	104	2180	109	50-135	5	0-25	
Aroclor-1260	2000	2460	123	2660	133	50-135	8	0-25	







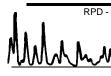


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 12-11-1514 EPA 3510C EPA 8082

Project: PCBs

Quality Control Sample ID	Matrix	lı	nstrument		ate pared	Date Analyzed	k	LCS/LCSD Batch Number	
099-12-533-712	Aqueous		GC 58	11/2	26/12	11/27/12		121126L03	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Aroclor-1016	2.000	1.800	90	1.820	91	50-135	1	0-25	
Aroclor-1260	2.000	2.260	113	2.110	106	50-135	7	0-25	







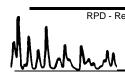


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 12-11-1514 EPA 508A EPA 508A

Project: PCBs

Quality Control Sample ID	Matrix		Instrument		ate pared	Date Analyzed	t	LCS/LCSD Batch Number	
099-14-541-10	Aqueous		GC 44	11/2	28/12	11/30/12		121128L03	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.5763	83	0.5799	83	80-120	1	0-10	





Glossary of Terms and Qualifiers

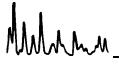


Work Order Number: 12-11-1514

TOIN GIGOIT	
Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
Е	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

% moisture. All QC results are reported on a wet weight basis.

MPN - Most Probable Number



From: (808) 826-6100 Michael Loo Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221

Princeville, HI 96722

Origin ID: LIHA

BILL SENDER

SHIP TO: (714) 895-5494

Don Burley
Calscience Environmental Lab.
7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ship Date: 20NOV12 ActWgt: 25.0 LB CAD: 7665451/INET3300



Ref# Invoice # PO # Dept #

WED - 21 NOV A1 PRIORITY OVERNIGHT

TRK# 0201

7941 2037 7176

92841

CA-US

SNA



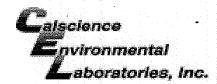




SAMPLE RECEIPT FORM

Cooler _\ of _\

LIENT: Prince ville Utilities	DATE:	1/21/12



WORK ORDER #: **12-11-** ☑ ☑ ☑ ☑

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & L	SAMPLES - CONTAINERS & LABELS:				Comments:		
□ Sample(s) NOT RECEIVED but listed on COC □ Sample(s) received but NOT LISTED on COC □ Holding time expired – list sample ID(s) and test □ Insufficient quantities for analysis – list test □ Improper container(s) used – list test □ Improper preservative used – list test □ No preservative noted on COC or label – list test & notify lab □ Sample labels illegible – note test/container type ☑ Sample label(s) do not match COC – Note in comments ☑ Sample ID □ Date and/or Time Collected □ Project Information □ # of Container(s) □ Analysis □ Sample container(s) compromised – Note in comments □ Water present in sample container □ Broken □ Sample container(s) not labeled □ Air sample container(s) compromised – Note in comments □ Flat □ Very low in volume □ Leaking (Not transferred - duplicate bag submitted)					abeled	as Well #1 celulee 2 10:31 Las MU Tennis 1/20/12 2 10:00 Lake & time 12 0 9:37 2 10:39 2 10:00 2 9:42	
☐ Leaking (transferred into	o Client's Te	dlar [®] Ba	ng*)				
HEADSPACE – Containers wit	h Bubble >	6mm o	r ¼ inch:				
Sample # Container # of Vials Received Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis	
						ė	
Comments:							
*Transferred at Client's request. Initial / Date: bc 11/2/12							

Sample Point No. 418-004 Source Name: fraceville Sample Location: Tap offer 411	Facility ID	SAMPLE LAB NO.						
Source Name: fine wille		- C12-11-0062						
Sample Location: Tag affar 411	reservair-	_						
Cl2 Reading (if Chlorinated) 6.2	mg/L	T	Contaminants	MCL	ND	NQ	Result	
Print Sampler Name Chelen P	275429	L		(μg/L)	(μg/L)	(μg/L)	(µg/L)	
Sampler Signature	Times 412 1	A	Regulated Organohalides					
Date: 1//27/12 Collection Remarks: Dun Incole	Time: 9:27	\vdash	Hexachlorocyclo-	50	<0.05			
offection Remarks: ful 1.0012	1950		pentadiene	30	~0.03			
elinquished by:	Date/Time:		Hexachlorobenzene	1	<0.05			
eceived by:	Date/Time:	╢	Lindane	0.2	<0.02			
•		1	Heptachlor	0.4	<0.01			
elinquished by:	Date/Time:		Heptachlor epoxide	0.2	<0.01			
eceived by:	Date/Time:	11	Endrin	2	<0.01			
elivered to Courier/Airport by:	Date/Time: 12:00	╢	Methoxychlor	40	<0.05			
econd hv:		卝	Alachlor	2	< 0.05			
eccived by: Yawahan	11/29/12 850		Chlordane	2	<0.10	<0.30		
elinquished by:	Date/Time:		Toxaphene	3	< 0.50	<1.5		
eceived by:	Date/Time:		Aroclor 1016	**	<0.26	E CAR		
elivered to Lab My:	Date/Time:	$\exists \vdash$	Aroclor 1221	**	<0.19			
elivered to Lab by:	Date/Time: 920		Aroclor 1232	**	<0.23			
eceived for Lab by Full Pull	Date/Fime: 11/29/12 920		Aroclor 1242	**	<0.26			
ocked in Refrig. by:	Date/Time:		Aroclor 1248	**	<0.30			
emoved from Refrig. by:	Date/Time:	1	Aroclor 1254	**	<0.33			
		1	Aroclor 1260	**	<0.36			
SDWB Administration Only Copies Done Pos. Result Chem Pos.	ents		* Simazine	4	< 0.07			
Sent SystemChem Fos.	1-8		* Atrazine	3	<0.05			
Sent NI OfficeInor. Mon. Data Entered Violation		B	Unregulated					
SDWB DataNeg. Result		L	(Phase II)					
GIS DataReduce Mon.			Metribuzin		<0.2			
			Aldrin					

Reported By: Rott Sim		Date 11/29/12
QA Check: Lucle luephane		Date //30/12_
Forwarded by:	K	Date /2-3-1>

SAMPLE LAB NO.

Contaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides					
Hexachlorocyclo- pentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	< 0.05			
Alachlor	2	< 0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26	Maran S		11/29/12
Aroclor 1221	**	<0.19			1
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			1
* Simazine	4	< 0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01	Market		
Butachlor		<0.05			
Dieldrin		<0.01	E DE		
Metolachlor		<0.05	SESSII!		
Propachlor		<0.1			

REPORT

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable Method: EPA 5O8.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS Sample Point No. Makey Co Facility ID Source Name: Sample Location: Cl2 Reading (if Chlorinated) Print Sampler Name Sampler Signature Date: Collection Remarks: Relinquished by: Date/Time: Received by: Date/Time: Relinquished by: Date/Time: Date/Fime: Received by: Delivered to Courier/Airport by: Date/Vijne: Received by: Relinquished by: Date/Time: Received by: Date/Time: Delivered to Lab by: Date/Time: Date/Time: Received for Lab by: PatoGun Locked in Refrig. by: Date/Time: Removed from Refrig. by: Date/Time: **SDWB Administration Only** Lab Comments Copies Done Pos. Result T=1.8°C Sent System Chem Pos. Sent NI Office Inor. Mon. Data Entered Violation SDWB Data Neg. Result GIS Data Reduce Mon.

Reported By: Just Punct	Date 11/29/12-
QA Check: Suble Shuphers Forwarded by:	Date 11/30/12
Forwarded by:	12-3-12

SAMPLE LAB NO.

C12-11-0063

		· ·				
Cor	ntaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (μg/L)	Date Analyzed
	Regulated organohalides	(FB/ ~)	(PG/ 2)	(Mg/ 2)	(pg/ 2)	Taxaay 200
	Hexachlorocyclo- pentadiene	50	<0.05			
ŀ	-lexachlorobenzene	1	<0.05			
L	Lindane	0.2	<0.02			
ŀ	-leptachlor	0.4	<0.01	K Y Z		
F	Heptachlor epoxide	0.2	<0.01			
E	Endrin	2	<0.01			
N	Methoxychlor	40	< 0.05			
A	Alachlor	2	<0.05			
C	Chlordane	2	<0.10	<0.30		
T	Toxaphene	3	<0.50	<1.5		/ 1
A	Aroclor 1016	**	<0.26			11/29/12
A	Aroclor 1221	**	<0.19			/ /
A	Aroclor 1232	**	<0.23			
. A	Aroclor 1242	**	<0.26			
A	Aroclor 1248	**	<0.30			
A	Aroclor 1254	**	<0.33			
A	Aroclor 1260	**	<0.36			V
*	Simazine	4	< 0.07			
*	Atrazine	3	<0.05			
(P	nregulated Phase II)					
N	/letribuzin		<0.2			
Α	Aldrin		<0.01			
В	Butachlor		<0.05			
D	Dieldrin		<0.01			
N	/letolachlor		<0.05			
P	ropachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NO = Not Quantifiable Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

REPORT

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS Sample Point No. 418 Facility ID SAMPLE LAB NO. Source Name: C12-11-0064 Sample Location: Cl2 Reading (if Chlorinated) Print Sampler Name Sampler Signature Date: (1/17 Collection Remarks: Relinquished by: Date/Time: Received by: Date/Time: Relinquished by: Date/Time: Received by: Date/Time: Delivered to Courier/Airport by: Date/Time: 2.00 Received by: Date/Vime: Relinquished by: Date/Time: Received by: Date/Time: Delivered to Lab by Dafe/Time:

920

Date/Time:

Date/Time:

Date/Time:

SDWB Administration Only Copies Done Pos. Result Sent System Chem Pos. Sent NI Office Inor. Mon. Data Entered Violation SDWB Data Neg. Result GIS Data Reduce Mon.	Lab Comments T = (.8°C	
Reported By: Post Pund		Date 11/29/12
QA Cheek: Compared by:	flance	Date 11/30/12 Date

Received for Lab by:

Locked in Refrig. by:

Removed from Refrig. by:

Contaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (μg/L)	Date Analyzed
A Regulated Organobalides				V 20 /	•
Hexachlorocyclo- pentadiene	50	<0.05			
Hexachlorobenzene	1	< 0.05			
Lindane	0.2	< 0.02			
Heptachlor	0.4	<0.01			-
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachior	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		1 1
Aroclor 1016	**	<0.26			11/29/1
Aroclor 1221	**	<0.19	-		1
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30		- <u> </u>	
Aroclor 1254	**	<0.33	-		
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			<u> </u>
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			-
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable
Method: EPA 5O8.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

* Using NP detector ** Any positive result would require analysis for total PCB as
decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration
equivalent of 0.5 ug/L decachlorobiphenyl.

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS Sample Point No. Facility ID Source Name: PRINCEVILLE WELL I CHLOR & WELL 2 CHLOR Sample Location: TAP AFTER 411 RESERVAIR Cl2 Reading (if Chlorinated) 3/ mg/L Print Sampler Name DAVD KAWAHA Sampler Signature Date: Time: Collection Remarks: SPEC Relinquished by: Date/Time: Received by: Date/Time: Relinquished by: Date/Time: Received by: Date/Time: Delivered to Courier/Airport by: Date/Time: 12 Received by: Pate/Time: Relinguished by: Date/Time: Received by: Date/Time: Delivered to Lab by: Date/Time: Received for Lab by: Date/Time: Locked in Refrig. by: Date/Time: Removed from Refrig. by; Date/Time: **SDWB Administration Only** Lab Comments Copies Done ___Pos. Result Sent System Chem Pos. T= 2.6°C Sent NI Office Inor. Mon. Data Entered Violation SDWB Data Neg. Result **GIS Data** Reduce Mon.

Reported By: Rut Pul	Date 12/6/12
QA Check luyshour	Date 12/6/12
Forwarded by:	N Date 12-6/12

SAMPLE LAB NO.

C12-12-0041

Contaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result	Date Analyzed
A Regulated Organohalides	(µg/L)	(µg/L)	(µg/L)	(μg/L)	Anatyzeu
Hexachlorocyclo- pentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			*
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	(<0.26)			12/6/12
Aroclor 1221	**	<0.19			
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33		-	
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin	TEVEL .	<0.2			
Aldrin		<0.01			
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

REPORT

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS REPORT

Sample Point No	Facility ID				
Source Name:					
Sample Location: MAKA	I CLUB COTTAGE				
Cl2 Reading (if Chlorinated) 30 mg/L					
Print Sampler Name DAVID KAUA HASA					
Sampler Signature	Karshan				
Date: 12/4/12	Time: /155				
Collection Remarks: 576 C					
7//-					
Relinquished by:	Date/Time:				
Received by:	Date/Time:				
Relinquished by:	Date/Time:				
Received by:	Date/Time:				
Delivered to Courjey/Airport by:	Date/Time:				
Har of tawaras	a 12/4/12 1230				
Received by:	12/4/12 3: Sppm				
Relinquished by:	Date/Time:				
Received by:	Date/Time:				
	Date/ Time:				
Delivered to Lab by:	12/4/Date/Time: 4:27Pm				
Received for Lab by:	Doto/Times				
Locked in Refrig. by:	D-4-77:				
- Shil	12/4/12 4:33 Pm				
Removed from Refrig. by: Rut Suit	Date/Time: 12/6/12 700A				
SDWB Administration Only	Lab Comments				
Copies DonePos. Result	· · · · · · · · · · · · · · · · · ·				
Sent SystemChem Pos.	7=28°C				
Sent NI OfficeInor. Mon.	1 - 2.00				
Data EnteredViolation					
SDWB DataNeg. Result					
GIS DataReduce Mon.					
Reported By:					
Reported By: Put Pul	Date 12/6/12				
QA Checky	Date . / / /-				
Mahara Hujoti					
Forwarded by:	M 12-6-12				

SAMPLE LAB NO. C12-12-0042

Contaminants	MCL	ND	NQ	Result	Date
A Regulated	(µg/L)	(μg/L)	(µg/L)	(μg/L)	Analyzed
Organohalides					
Hexachlorocyclo- pentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26	11 - 12 - 1		12/6/12
Aroclor 1221	**	<0.19			1
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			.,
* Simazine	4	< 0.07			*
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin		<0.01			
Butachlor		<0.05	W. 19 8 1		·
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable

Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

* Using NP detector ** Any positive result would require analysis for total PCB as
decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration
equivalent of 0.5 ug/L decachlorobiphenyl.

DEPARTMENT OF HEALTH LABORATORIES – SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS REPORT

Sample Point No. 42	8-901 Facility ID
Source Name:	
Sample Location: 3	
Cl2 Reading (if Chlor	rinated) 33 mg/L
Print Sampler Name	DAULD KAWAHARA
Sampler Signature	Jana Kanahare
Date: /2/4/(5	Time: 1(15
Collection Remarks:	PRECIAL - PCBS
Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by	Date/Time: 12 3
Received by:	Date/Time:
Daniel Chone	12/4/12 3:50PM
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	12/4/12 Date/Time: 4:27 Pm
Received for Lab by:	22- 12/4/12 Date/Time: 4:27 pm
Locked in Refrig. by:	Fil. 1214/12 Date/Time: 4:35ph
Removed from Refrig. by: Rett	Pur Date/Time: 12/6/12 700A
CDWD Administration Only	
SDWB Administration Onl Copies Done Pos. Re:	
Sent System Chem P	,, II
Sent NI OfficeInor. Me	
Data EnteredViolatio	"
SDWB DataNeg. Re	1 1
GIS DataReduce	Mon.
D	
Reported By: Rat Pund	Date (2/6/12
QA Checks	petieure 12/6/12
Forwarded by:	Date
-	12-6-12

SAMPLE LAB NO.

012-12-0043

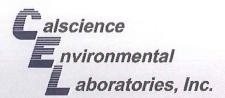
C	Contaminants	MCL (ug/L)	ND (ng/L)	NQ (ug/L)	Result	Date
A	Regulated Organohalides	(μg/L)	(μg/L)	(μg/L)	(µg/L)	Analyzed
	Hexachlorocyclo- pentadiene	50	<0.05			
	Hexachlorobenzene	1	< 0.05			
	Lindane	0.2	<0.02			
	Heptachlor	0.4	<0.01			
	Heptachlor epoxide	0.2	<0.01			
	Endrin	2	<0.01			
	Methoxychlor	40	<0.05			
	Alachlor	2	<0.05			
	Chlordane	2	<0.10	<0.30		
	Toxaphene	3	<0.50	<1.5		
	Aroclor 1016	**	(<0.26)			12/6/12
	Aroclor 1221	**	<0.19	4.97655		- / /
	Aroclor 1232	**	<0.23			
	Aroclor 1242	**	<0.26			
	Aroclor 1248	**	<0.30			
_	Aroclor 1254	**	<0.33			
	Aroclor 1260	**	<0.36			
	* Simazine	4	<0.07			<u>_</u>
	* Atrazine	3	<0.05			
В	Unregulated (Phase II)					
	Metribuzin		<0.2			
	Aldrin		<0.01			
	Butachlor		<0.05			
	Dieldrin		<0.01			
	Metolachlor		<0.05			
	Propachlor		<0.1			
M	CL = Maximum Contaminan	t Level	ND = Not De	tectable	NO = Not Oua	ntifichlo

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable

Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

* Using NP detector ** Any positive result would require analysis for total PCB as

decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.





CALSCIENCE

WORK ORDER NUMBER: 12-12-0412

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville / EPA 508A

Attention: Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Am Bmly

Approved for release on 12/10/2012 by: Don Burley Project Manager



Email your PM >

ResultLink >

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client	Project	Name:
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4

Princeville / EPA 508A

Work Order Number: 12-12-0412

1	Client Sample Data	3
2	Quality Control Sample Data	4
3	Glossary of Terms and Qualifiers	5





Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No:

Work Order No: 12-12-0412 Preparation: EPA 508A

Method:

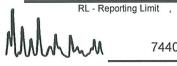
EPA 508A

12/07/12

Project: Princeville / EPA 508A

Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim Sample		12-12-0412-1-A	12/06/12 11:20	Aqueous	GC 44	12/07/12	12/10/12 11:01	121207L06
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	1.4	0.25	1		ug/L			
Water-tap at 411 tank		12-12-0412-2-A	12/06/12 11:16	Aqueous	GC 44	12/07/12	12/10/12 11:16	121207L06
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Water-St. Regis Pool		12-12-0412-4-A	12/06/12 10:55	Aqueous	GC 44	12/07/12	12/10/12 11:30	121207L06
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Method Blank		099-14-541-11	N/A	Aqueous	GC 44	12/07/12	12/10/12 10:47	121207L06
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			



DF - Dilution Factor ,

Qual - Qualifiers





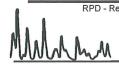


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 12-12-0412 EPA 508A EPA 508A

Project: Princeville / EPA 508A

Quality Control Sample ID	Matrix		Instrument		ate pared	Date Analyzed	İ	LCS/LCSD Batch Number	
099-14-541-11	Aqueous		GC 44		07/12	12/10/12		121207L06	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl 0.69		0.5681	82	0.5686	82	80-120	0	0-10	





Glossary of Terms and Qualifiers



Work Order Number: 12-12-0412

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis. MPN - Most Probable Number



alscience

7440 LINCOLN WAY

CHAIN	OF	CUST	ODY	RECORD
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nvironmental GARDEN GROVE, CA 92841-1427							WO#/LAB USE ONLY: DATE:																		
aboratories, Inc.		895-5494 . FA		1-7501				PAGE: OF																	
LABORATORY CLIENT: Princeville Ut	ilities Company	/, Inc.						CLIEN	IT PRO	JECT N	AME / N	UMBER		<u>araya</u>					P.O. N	10.:	(200, 100, 100)				
ADDRESS: 5-3541 Kuhio Hwy., Suit								PROJECT CONTACT: SAMPLER(S): (PRINT)																	
CITY: STATE: ZIP: Princeville HI 96722																									
TEL: 808-826-6100 x. 11	E-MAIL:	oo@princev	ille com											REQ	UES	TED	AN	ALY	SES	}			(Correspondential)	(2000)	
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	【48 HR □	72 HR 🗆 🤄	5 DAYS	□ 10 DA	YS	CODE:			-C44)															-	
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	PP P				ved d sred	TPH(g) or GRO	TPH(d) or DRO or (C6-C36) or (C6-C44)		BTEX / MTBE (8260)	(260)	Oxygenates (8260)	En Core / Terra Core Prep (5035)	SVOCs (8270)	Pesticides (8081)	082)	PNAs (8310) or (8270)	T22 Metals (6010/747X)	Cr(VI) [7196 or 7199							
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USE: SAMPLE ID ONLY:	DATE	TIME	MATRIX	OF CONT.	5	P. B.	Fie	르	면	F	BT	8	ő	듭	S	Pe	PC	<u>a</u>	12	ວັ					
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2 Vater-tap at 411 tank-(Method 508	<u> </u>																					<u> </u>			
Water-Makai Club (Method 508A)																·					لبا				
Vater-St. Regis Pool (Method 508,	A	•									<u> </u>							<u> </u>	ļ	<u> </u>				_	
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WO:#/LAB USE ONLY



Page 1 of 1

From: (808) 826-6100 Michael Loo Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221

Princeville, HI 96722

Fedex



.1122012092003

BILL SENDER

SHIP TO: (714) 895-5494

Don Burley Calscience Environmental Lab. 7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ship Date: 06DEC12 ActWgt 9.0 LB CAD: 7665451/INET3300

Delivery Address Bar Code



Ref# Invoice# PO# Dept#

> FRI - 07 DEC A1 FIRST OVERNIGHT

TRK# 7942 3937 9607

W1 APVA

92841 CA-US



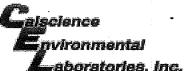


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147918 REV 8/08 RRI

Fed Exx o Express

FedEx First Overnight®



WORK ORDER #: **12-12-** □ □ □ □

SAMPLE RECEIPT FORM	Cooler <u>l</u>	of <u>l</u>
CLIENT: Py'nceville DATE:	12/07	/12
TEMPERATURE: Thermometer ID: SC4 (Criteria: 0.0 °C – 6.0 °C, not frozen except so	diment/tissue)	
Temperature 3 °C - 0.3 °C (CF) = 3 .5 °C Slank	☐ Sample	
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).		
\square Sample(s) outside temperature criteria but received on ice/chilled on same day of samp	ling.	
☐ Received at ambient temperature, placed on ice for transport by Courier.		_
Ambient Temperature: Air Filter	Initial:	H_
		V
CUSTODY SEALS INTACT:		
□ Cooler □ □ No (Not Intact) • Not Present □ N/A	-	R-
□ Sample □ □ No (Not Intact) ☑ Not Present	Initial: _	-1k.U
SAMPLE CONDITION: Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples		
COC document(s) received complete	Ø	
☑ Collection date/time, matrix, and/or # of containers logged in based on sample labels.		
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.		
Sampler's name indicated on COC	ø'	
Sample container label(s) consistent with COC □	2	
Sample container(s) intact and good condition		
Proper containers and sufficient volume for analyses requested		
Analyses received within holding time		
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours □		Ø
Proper preservation noted on COC or sample container		
☐ Unpreserved vials received for Volatiles analysis		
Volatile analysis container(s) free of headspace □		ď
Tedlar bag(s) free of condensation □ CONTAINER TYPE:		Ø
Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □EnCores® □Terra	aCores® □	
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp ☑1AĞB	□1AGBna₂ □	1AGB s
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB	□1PBna □50	00PB
□250PB □250PBn □125PB □125PB znna □100PJ □100PJ na ₂ □ □		
Air: ☐Tedlar® ☐Canister Other: ☐ Trip Blank Lot#: Labeled Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope	/Checked by: _ Reviewed by: _	10 D





CALSCIENCE

WORK ORDER NUMBER: 13-02-0369

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

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Approved for release on 02/11/2013 by: Don Burley Project Manager

nelac

Email your PM >

ResultLink >

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-02-0369

1	Client Sample Data	
2	Quality Control Sample Data	5 5 6
3	Glossary of Terms and Qualifiers	8
4	Chain of Custody/Sample Receipt Form	9





Analytical Report



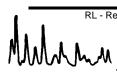
Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 02/07/13 13-02-0369 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim Sample (Method 508A)		13-02-0369-1-A	02/05/13 14:00	Aqueous	GC 44	02/07/13	02/08/13 17:15	130207L01
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	39	2.5	10		ug/L			
Water (tap at 411) (Method 508A)		13-02-0369-2-A	02/05/13 14:00	Aqueous	GC 44	02/07/13	02/08/13 17:00	130207L01
Parameter Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Method Blank		099-14-541-12	N/A	Aqueous	GC 44	02/07/13	02/08/13 13:27	130207L01
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			



DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: Units: 02/07/13 13-02-0369 EPA 3545 EPA 8082 mg/kg

Project: Princeville Utilities Company, Inc.

Page 1 of	
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Client Sample Number				Lab Sample Number	Date/Time Collected	Matrix	Instrumen	Date t Prepar		ate/Time nalyzed	QC Batch ID
Wall Scraping #A (Method 8082)			13-	02-0369-3-A	02/05/13 14:00	Solid	GC 58	02/07/1		2/09/13 12:02	130207L08
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Parameter</u>			Result	<u>RL</u>	<u>DF</u>	Qual
Aroclor-1016	ND	500	100	000	Aroclor-1248			ND	500	1000	00
Aroclor-1221	ND	500	100	000	Aroclor-1254			830	500	1000	00
Aroclor-1232	ND	500	100	000	Aroclor-1260			750	500	1000	00
Aroclor-1242	ND	500	100	000	Aroclor-1262			ND	500	1000	00
Surrogates:	REC (%)	Control		<u>Qual</u>	Surrogates:			REC (9			<u>Qual</u>
Decachlorobiphenyl	1760	<u>Limits</u> 50-130		1	2,4,5,6-Tetrach	nloro-m-Xyle	ene	700	<u>Limit</u> 50-130		1
Wall Scraping #B (Method 8082)			13-	02-0369-4-A	02/05/13 14:00	Solid	GC 58	02/07/1		2/09/13 12:20	130207L08
Devenuetor	Danult	DI		Ovel	Danasatan			Daarik	DI	DE	Overl
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>			Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>
Aroclor-1016	ND	500	100		Aroclor-1248			ND	500	1000	
Aroclor-1221	ND	500	100		Aroclor-1254			840	500	1000	
Aroclor-1232	ND	500	100		Aroclor-1260			790	500	1000	
Aroclor-1242	ND	500	100		Aroclor-1262			ND	500	1000	
Surrogates:	<u>REC (%)</u>			<u>Qual</u>	Surrogates:			<u>REC (9</u>			<u>Qual</u>
Decachlorobiphenyl	920	<u>Limits</u> 50-130		1	2,4,5,6-Tetrach	nloro-m-Xyle	ene	230	<u>Limit</u> 50-130		1
Method Blank			099	9-12-535-1,786	N/A	Solid	GC 58	02/07/1		2/07/13 14:43	130207L08
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	Doromotor			Result	DI	DF	Qual
				<u>Quai</u>	Parameter 1010				<u>RL</u>		<u>Quai</u>
Aroclor-1016	ND	0.050	1		Aroclor-1248			ND	0.050	1	
Aroclor-1221	ND	0.050	1		Aroclor-1254			ND	0.050	1	
Aroclor-1232	ND	0.050	1		Aroclor-1260			ND	0.050	1	
Aroclor-1242	ND	0.050	1	0	Aroclor-1262			ND	0.050	1	2
Surrogates:	<u>REC (%)</u>	Control Limits		<u>Qual</u>	Surrogates:			REC (9	%) Cont Limit		<u>Qual</u>
Decachlorobiphenyl	85	50-130			2,4,5,6-Tetrach	nloro-m-Xyle	ene	76	50-130	_	

MMMM.

DF - Dilution Factor





Quality Control - Spike/Spike Duplicate

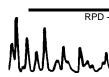


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

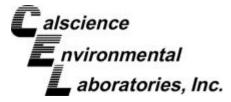
Date Received: Work Order No: Preparation: Method: 02/07/13 13-02-0369 EPA 3545 EPA 8082

Project Princeville Utilities Company, Inc.

Quality Control Sample ID			Matrix	In	strument		Pate epared	Date Analyzed	MS/MSD Batch Number	
13-02-0367-3			Solid GC 58			02/	07/13	02/07/13	130	207S08
<u>Parameter</u>	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Aroclor-1016	ND	0.1000	0.07350	74	0.08050	80	50-135	9	0-20	
Aroclor-1260	ND	0.1000	0.08550	86	0.09500	95	50-135	11	0-25	







Quality Control - LCS/LCS Duplicate

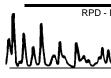


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-02-0369 EPA 3545 EPA 8082

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	lı	nstrument		ate oared	Date Analyzed	t	LCS/LCSD Batch Number	
099-12-535-1,786	Solid		GC 58	02/0	07/13	02/07/13		130207L08	
<u>Parameter</u>	<u>SPIKE</u> ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Aroclor-1016	0.1000	0.09800	98	0.08850	88	50-135	10	0-20	
Aroclor-1260	0.1000	0.09000	90	0.08550	86	50-135	5	0-25	







Quality Control - LCS/LCS Duplicate

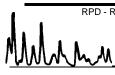


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-02-0369 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix		Instrument		ate pared	Date Analyzed	t	LCS/LCSD Batch Number	
099-14-541-12	Aqueous		GC 44	02/	07/13	02/08/13		130207L01	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.5615	5 81	0.5687	82	80-120	1	0-10	





Glossary of Terms and Qualifiers

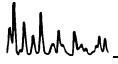


Work Order Number: 13-02-0369

VOIR Older I	Variaber: 13-02-0303
Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

% moisture. All QC results are reported on a wet weight basis.

MPN - Most Probable Number



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	-1427	714) 894			STATE:	Com					2	MAIRIA				7.							
	92841	.AX: (;			s	eville.	☐ 5 DAYS						5	ue	2	0.17.							
w WAY	GARDEN GROVE, CA 92841-1427	TEL: (714) 895-5494 . FAX: (714) 894-7	ĵ.			mloo@princeville.com			,		S _G	TIME	2:00/01	dw.E	2:00 mg	J.M.E							
NCOLI	N GRO	14) 89	any, Ir			mloo	□ 72 HR				SAMPLING		15/13		15	12							
7440 LINCOLN WAY	GARDE	TEL: (7	Princeville Utilities Company, Inc.	ite 221		E-MAIL:	⊠ 48 HR					DATE	2/5	15/5	1/2/	1 >							
			e Utilitie	5-3541 Kuhio Highway, Suite 221			\boxtimes	ë			F			(M80)	- `	1-							
		s, Inc	incevill	Highv			□ 24 HR	GLOBAL ID:				╸┃	d 508A)	lethod 5	ethod 80	ethod 80					Z		
	enta	ories		1 Kuhic		8			SNS:			SAMPLEID	(Metho	411) (M) #A (Me) #B (Me					(Signafure	gnature	gnature
nce	<i>muo</i>	aboratories, Inc.	LABORATORY CLIENT:	5-354	eville	808-826-6100	о тіме: DAY	EDF	SPECIAL INSTRUCTIONS:			ŝ	Skim Sample (Method 508A)	Water (tap at 411) (Method 508A)	Wall Scraping #A (Method 8082)	Wall Scraping #B (Method 8082)					1 10%: (6)	Relinquished by: (Signature)	Relinquished by: (Signature)
alscience	nvir	at	RATORY	ESS:	Princeville	808-8	TURNAROUND TIME SAME DAY	□ COELT EDF	IAL INST				Skim	Water	Wall S	Wall S	 	 		j	Refinduished by:	nquishec	nquishec
			LABOI	ADDRESS:	CITY:	Ë	JURAN S		SPEC		LAB	USE		Ŋ	دح	I					Re∰	Relir	Relir

06/01/10 Revision



From: (808) 826-6100 Michael Loo Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221 Origin ID: LIHA

Fedex.

Express

J1310121219032

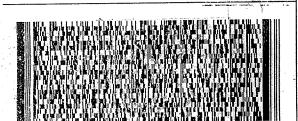
BILL SENDER

Princeville, HI 96722

SHIP TO: (714) 895-5494

Don Burley Calscience Environmental Lab. 7440 LINCOLN WAY

GARDEN GROVE, CA 92841



Ship Date: 06FEB13 ActWgt: 50.0 LB CAD: 7665451/INET3370

Dims: 18 X 10 X 14 IN

Delivery Address Bar Cod



Ref# Invoice# PO# Dept#

THU - 07 FEB A1 PRIORITY OVERNIGHT

TRK# 0201 7946 8561 1556

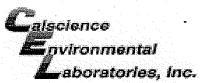
WZ APVA

92841 ca-us SNA



18G1/DF24/93AB





WORK ORDER #: 13-02-10 13

SAMPLE RECEIPT FORM	SAMF	PLER	RECE	PTF	ORM
---------------------	------	------	------	-----	-----

Cooler ___ of _

rinceville DATE: 02/07/13 CLIENT: TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C - 6.0 °C, not frozen except sediment/tissue) Temperature $\underline{5} \cdot 8 \text{ °C} - 0.2 \text{ °C} \text{ (CF)} = \underline{5} \cdot \underline{6} \text{ °C}$ ☐ Blank ☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____). ☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling. ☐ Received at ambient temperature, placed on ice for transport by Courier. Ambient Temperature: ☐ Air ☐ Filter Initial: **CUSTODY SEALS INTACT:** Not Present □ N/A ☐ Cooler ☐ No (Not Intact) ☐ No (Not Intact) ✓ Not Present Initial: □ Sample Yes N/A SAMPLE CONDITION: No . 🗹 Chain-Of-Custody (COC) document(s) received with samples..... 17 COC document(s) received complete П

Collection date/time, matrix, and/or # of containers logged in based on sample labels.
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.
Sampler's name indicated on COC
Sample container label(s) consistent with COC
Sample container(s) intact and good condition
Proper containers and sufficient volume for analyses requested □
Analyses received within holding time
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours
Proper preservation noted on COC or sample container □ □ □
☐ Unpreserved vials received for Volatiles analysis
Volatile analysis container(s) free of headspace □ □ □
Tedlar bag(s) free of condensation
Solid: □4ozCGJ ☑8ozCGJ □16ozCGJ □Sleeve () □EnCores® □TerraÇores® □
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp ☑1AGB □1AGBna₂ □1AGB
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □1PBna □500PB
□250PB □250PBn □125PB □125PB znna □100PJ □100PJ na₂ □ □ □

Air: □Tedlar® □Canister Other: □_____ Trip Blank Lot#:

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope

Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by:

Labeled/Checked by:

Reviewed by:

Sample Point No. 428-004	Sample Point No. 418-004 Facility ID			SAMPLE LAB NO.							
Source Name: PrinceVille Sample Location: Tap offer 411 Reservoir			C13-02-0035								
Cl2 Reading (if Chlorinated) Drint Sampler Name Steven	Mafreda	Contam	inants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (μg/L)	Date Analyzed			
Sampler Signature Date: 2/5//3	Time: 8:11	A Regula	ited ohalides		<u> </u>	V	- V. B /				
Collection Remarks: Pypl, cut	e Takes		hlorocyclo-	50	<0.05						
Relinquished by:	Date/Time:	Hexac	hlorobenzene	1	<0.05						
Received by:	Date/Time:	Lindar	ne	0.2	< 0.02						
D.li. a. ish ad b	D. A. CTI	Heptac	chlor	0.4	<0.01						
Relinquished by:	Date/Time:	Heptad	chlor epoxide	0.2	<0.01	BREE					
Received by:	Date/Time:	Endrin	1	2	<0.01						
Delivered to Courier/Airport by:	Date/Time: 10.30	Metho	xychlor	40	<0.05						
Received by:	- 2/5/13 10.50	- Alachi	lor	2	< 0.05						
	•	Chlore	lane	2	<0.10	<0.30					
Relinquished by:	Date/Time:	Toxap	hene	3	< 0.50	<1.5					
Received by:	2/c/2 Bate/Time: /0/20	Aroclo	or 1016	**	<0.26			2/6/13			
Delivered to Lab by:	Date/Time:	Aroclo	or 1221	**	<0.19			- (- (
Received for Lab by: Ratification	2/6/13 10:45 Date/Time: 2/1/3 1000	Aroclo	or 1232	**	<0.23						
0 400 0.400	76/12 1035	Aroclo	or 1242	**	<0.26	Service of the servic					
Locked in Refrig. by:	Date/Time:	Aroclo	or 1248	**	<0.30						
Removed from Refrig. by:	Date/Time:	Aroclo	or 1254	**	<0.33	5.983					

SDWB Admin Copies Done Sent System Sent NI Office Data Entered SDWB Data GIS Data	histration Only Pos. Result Chem Pos. Inor. Mon. Violation Neg. Result Reduce Mon.	Lab Comments These were suspicious which particulates in the extract after the SPE extraction. It did not dissolve in the extraction salvent, ethyl acetate It also did not dissolve in water. RB 2/7/13

Reported By: Juto Puw	Date 2/7/13
QA Cheek: Huchard Hupliane	Date 2/7/13
Forwarded by:	Date 3-7-13

Contaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides			•		
Hexachlorocyclo- pentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			
Lindane	0.2	< 0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01	BESS		
Endrin	2	<0.01			
Methoxychlor	40	<0.05	建筑		
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26			2/6/13
Aroclor 1221	**	<0.19			(
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			
* Simazine	4	<0.07			- V
* Atrazine	3	<0.05			
B Unregulated (Phase II)					
Metribuzin		<0.2	E PE		
Aldrin		<0.01	(20)		
Butachlor		<0.05			
Dieldrin		<0.01			
Metolachlor		<0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

Sample Point No.	Facility ID
Source Name: Trhas/1/1e	
Sample Location: Makai Coffa	ge_
Cl2 Reading (if Chlorinated) D.3	mg/L
Print Sampler Name Steven Ma	Kudg
Sampler Signature	0
Date: 2/5/13	Time: 8:37
Collection Remarks:	
Relinquished by:	Date/Fime:
Received by:	Date/Time:
Relinquished by:	Date/l'ime:
Received by:	Date/Time:
Delivered to Courier/Airport by: White	Date/Time: /0/30
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by: Received by:	Date/Fine: 13 10:30
Delivered to Lab by:	Date/fishe: /2 /8.5(
Received for Lab by: Put Pun	Date/Time: 2/6/13 1055
Locked in Refrig. by:	Date/Fime:
Removed from Refrig. by:	Date/Time:
SDWB Administration Only Copies Done Pos. Result Sent System Chem Pos. Sent NI Office Inor. Mon. Data Entered Violation SDWB Data Neg. Result GIS Data Reduce Mon.	ents
Reported By: Reported By:	Date 2/7/13
QA Checks.	Date 2/7/13
Forwarded by:	N Date 1 -7 - 13

SAMPLE LAB NO.

C13-02-0036

C	ontaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (μg/L)	Date Analyzed				
A	Regulated Organohalides	(25, 2)	(PG/2)	(μg/ ε)	(<u>µg</u> , i.)	Analyzed				
	Hexachlorocyclo- pentadiene	50	<0.05							
	Hexachlorobenzene	1	< 0.05							
	Lindane	0.2	<0.02							
	Heptachlor	0.4	<0.01							
	Heptachlor epoxide	0.2	<0.01							
	Endrin	2	<0.01							
	Methoxychlor	40	<0.05							
	Alachlor	2	< 0.05							
	Chlordane	2	< 0.10	<0.30						
	Toxaphene	3	<0.50	<1.5						
	Aroclor 1016	**	<0.26			2/6/13				
-	Aroclor 1221	**	<0.19							
	Aroclor 1232	**	<0.23							
	Aroclor 1242	**	<0.26							
	Aroclor 1248	**	<0.30							
	Aroclor 1254	**	<0.33	P MARK						
	Aroclor 1260	**	<0.36			. /				
	* Simazine	4	< 0.07	NA PA		*				
	* Atrazine	3	<0.05							
В	Unregulated (Phase II)									
	Metribuzin		<0.2							
	Aldrin		<0.01							
	Butachlor		<0.05							
	Dieldrin		<0.01							
	Metolachlor		<0.05							
	Propachlor		<0.1							
						L				

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable

Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

* Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

23

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS REPORT

Sample Point No. 420-90/	Facility ID
Source Name: Imaelille	
Sample Location: 54 Fag 15	pol fact
Cl2 Reading (if Chlorinated)	g_mg/L
Print Sampler Name Steven	Matsydy
Sampler Signature	the
Date: 45/13	Time: 9:00
Collection Remarks:	
Relinquished by:	Date/Time:
Received by:	Date/Fime:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date/Time: 10 70
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by: Milian	2/6/13 10:30
Delivered to Lab by:	Date/Time: 10.55
Received for Lab by: Rut Sun	Pate/Time: 2/6/13 10:55
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:
SDWB Administration Only Copies Done Pos. Result Sent System Chem Pos. Sent NI Office Inor. Mon. Data Entered Violation SDWB Data Neg. Result GIS Data Reduce Mon.	ments
Reported By: Firther	Date 2/7/13
OA Chada a sa dd	Date
Williard Very have	2/7/13
Forwarded by:	n Date 1-7-13

SAMPLE LAB NO.

C13-02-0037

Contaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohalides		V 37			
Hexachlorocyclo- pentadiene	50	<0.05			
Hexachlorobenzene	1	<0.05			****
Lindane	0.2	<0.02			
Heptachlor	0.4	<0.01			
Heptachlor epoxide	0.2	<0.01			
Endrin	2	<0.01			
Methoxychlor	40	<0.05			
Alachlor	2	<0.05			
Chlordane	2	<0.10	<0.30		
Toxaphene	3	<0.50	<1.5		
Aroclor 1016	**	<0.26	BALT!		2/6/13
Aroclor 1221	**	<0.19			7
Aroclor 1232	**	<0.23			
Aroclor 1242	**	<0.26			
Aroclor 1248	**	<0.30			
Aroclor 1254	**	<0.33			
Aroclor 1260	**	<0.36			J
* Simazine	4	< 0.07			
* Atrazine	3	<0.05	A GEN		
B Unregulated (Phase II)					
Metribuzin		<0.2			
Aldrin	1	<0.01			
Butachlor		<0.05	The state of		
Dieldrin		<0.01			
Metolachlor		< 0.05			
Propachlor		<0.1			

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable

Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

* Using NP detector ** Any positive result would require analysis for total PCB as
decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration
equivalent of 0.5 ug/L decachlorobiphenyl.

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS: Co				Comme	Comments:				
☐ Sample(s) NOT RECEIVED but listed on COC ☐ Sample(s) received but NOT LISTED on COC ☐ Holding time expired – list sample ID(s) and test ☐ Insufficient quantities for analysis – list test ☐ Improper container(s) used – list test ☐ Improper preservative used – list test ☐ No preservative noted on COC or label – list test & notify lab ☐ Sample labels illegible – note test/container type ☐ Sample label(s) do not match COC – Note in comments ☐ Sample ID ☐ Date and/or Time Collected ☐ Project Information ☐ # of Container(s) ☐ Analysis ☐ Sample container(s) compromised – Note in comments ☐ Broken ☐ Sample container(s) not labeled ☐ Air sample container(s) not labeled ☐ Air sample container(s) compromised – Note in comments ☐ Flat ☐ Very low in volume ☐ Leaking (Not transferred - duplicate bag submitted) ☐ Leaking (transferred into Calscience Tedlar® Bag*) ☐ Leaking (transferred into Client's Tedlar® Bag*)					(-3) Water-Makai Club not received. * Collection date & time per lakel: (-1) 12/6/12 & 1/:20A (-2) 12/6/12 & 1/:16A (-4) 12/6/12 & 10:5TA				
☑ Other: HEADSPAC	Conto	inoro wie	h Bubbla's	6mm c	r 1/ inch	-			
HEADSPAC	– Conta	illeis wii	.ii Dubbie /	OIIIIII C	/4 IIICII.				
Sample # Conta		Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received		Analysis
		-					:		
				,m.					
<u> </u>									
Comments:									
			W						
*Transferred at	Client's requ	uest.		WO 2 2 24 10 2 10 10 10 10 10 10 10 10 10 10 10 10 10		lr.	nitial / Da	ite: りん	12 <i>107</i> 712

SOP T100_090 (08/31/11)

DEPARTMENT OF HEALTH LABORATORIES – SAFE DRI		HAIN —	OF CUSTODY & SY	<u>NTHETI</u>	C ORGA	NIC CH	HEMICAL	<u>.S</u>
Sample Point No. 428-004 Facility II)		SAMPLE LAI	3 NO.				
Source Name: Princeville		一	C13-01-00	2				
Sample Location: Top Affer 411 Kese	1811	L	0.5 0. 00	/				
Cl2 Reading (if Chlorinated) 0.7 mg/L			Contaminants	MCL	ND	NQ	Result	Т
Sample Point No. 749 Facility ID Source Name: Princeville Sample Location: Tep Affer 4/1 Reservor Cl2 Reading (if Chlorinated) 0:9 mg/L Print Sampler Name Start Not Start Of Sampler Signature Date: 1/24/3 Time: 10:15			Julianinants	(μg/L)	(μg/L)	(μg/L)	(μg/L)	
Sampler Signature	10.11		Regulated		18-7	(1-8-)	\FB -/	\vdash
Date://21/13 Time: Collection Remarks:	10:18	\vdash	Organohalides Hexachlorocyclo-	50	<0.05			PER 1
Collection Remarks:			pentadiene	30	<0.03			
Relinquished by: Date	e/Time:		Hexachlorobenzene	1	<0.05			
Received by: Date	e/Time:	$\exists \Gamma$	Lindane	0.2	<0.02			
Relinquished by: Date	/Int	$\exists \Gamma$	Heptachlor	0.4	<0.01			
Reinquisied by:	e/Time:		Heptachlor epoxide	0.2	<0.01			
Received by: Date	e/Time:		Endrin	2	<0.01			
Delivered to Courier/Airport by:	e/Time:	11	Methoxychlor	40	<0.05	5789 7		
Received by: // Date	/Time: 12:02	-11	Alachlor	2	< 0.05			
Manganan 1/23/13	930		Chlordane	2	<0.10	< 0.30		
Relinquished by: ' Date	e/Time:		Toxaphene	3	<0.50	<1.5		\vdash
1	:/Time:	7	Aroclor 1016	**	<0.26			
Received for Lab by: Ret Pint Date	Time: 955	1	Aroclor 1221	**	<0.19			
Bacatrad for Lab by 2 . P.		┨┞	Aroclor 1232	**	<0.23			
	1/20/13 435 A		Aroclor 1242	**	<0.26			
Locked in Refrig. by: Date	:/Time:		Aroclor 1248	**	<0.30			
Removed from Refrig. by: Date	/Time:	1	Aroclor 1254	**	<0.33			
	and the state of t	4Г	Aroclor 1260	**	<0.36			
SDWB Administration Only Copies Done Pos. Result			* Simazine	4	< 0.07			
Sent System Chem Pos. Sent NI Office Inor. Mon.			* Atrazine	3	<0.05			
Data EnteredViolation		B	Unregulated					
SDWB DataNeg. Result GIS Data Reduce Mon.		۱H	(Phase II)					
Cl3 Data		┚┡	Metribuzin		<0.2			L_
Reported By: (Ref) (P. 19)	Date : /20/12	٦ إ	Aldrin		<0.01			
U ** U 400	1/1/10] -	Butachlor		<0.05			
Reported By: Patrous QA Check: Reported By: Patrous	Date 1-30-13		Dieldrin		<0.01			-
	Date	1	Metolachlor		<0.05			
Forwarded by:	2,410	_	Propachlor		<0.1			

SAMPLE LAB NO.

Contamina	ints	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (µg/L)	Date Analyzed
A Regulated Organohali	ides	(FG/L)	(µg/L)	(μg/ ε)	(µg/D)	Analyzed
Hexachlo	rocyclo-	50	<0.05	K-SE		
pentadien						
Hexachlor	robenzene	1	<0.05			
Lindane		0.2	<0.02			
Heptachlo		0.4	<0.01			
Heptachlo	r epoxide	0.2	<0.01			
Endrin	_	2	<0.01			
Methoxyc	hlor	40	<0.05	5348		
Alachlor		2	< 0.05			-
Chlordane	,	2	< 0.10	<0.30		
Toxaphen	e	3	<0.50	<1.5		
Aroclor 10	016	**	(<0.26)			1/28/13
Aroclor 12	221	**	<0.19			
Aroclor 12	232	**	<0.23			
Aroclor 12	242	**	<0.26			
Aroclor 12	248	**	<0.30			
Aroclor 12	254	**	<0.33			
Aroclor 12	260	**	<0.36			
* Simazin	e	4	<0.07			Ψ
* Atrazine	;	3	<0.05			
B Unregulate (Phase II)	d					
Metribuzii	n		<0.2			
Aldrin			<0.01			
Butachlor		ALE SI	<0.05			
Dieldrin			<0.01			
Metolachi	or		<0.05			
Propachlo	r		<0.1			
MCL = Maximu		A T anal	ND = Not De	4-4-11	NO = Not Oug	

REPORT

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl * Using NP detector ** Any positive result would require analysis for total PCB as decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration equivalent of 0.5 ug/L decachlorobiphenyl.

Sample Point No.	Facility ID
Source Name: Praces, 14 Sample Location: Pakai Ca	Haan
Cl ₂ Reading (if Chlorinated)	// 2 mg/L
Print Sampler Name 5f2	
Sampler Signature	20-12-
Date: //22/12	Time: /0:30
Collection Remarks: /	
Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	VEN 197142 12:00
Received by:	1/23/13 Date/Pimer 20
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Lab by:	1/23/13 Date/Time:
Received for Lab by: Rith Fund	Date/Fime: 1/23/13 955 A
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:
SDWB Administration Only Lab	Comments
Copies DonePos. Result	Comments
Sent SystemChem Pos. Sent NI Office Inor. Mon.	
Data Entered Violation	
SDWB Data Neg. Result	
GIS DataReduce Mon.	
Reported By: Rank 1	Date / / a
O MO O and	1/29/13
QA Check: F Sal.	Date 1-30-13
Forwarded by:	₽ Date
	1

SAMPLE LAB NO.

C13-01-0002

C	ontaminants	MCL (μg/L)	ND (μg/L)	NQ (ug/L)	Result	Date
A	Regulated	(µg/L)	(μg/L)	(µg/L)	(µg/L)	Analyzed
Ľ	Organohalides					
	Hexachlorocyclo- pentadiene	50	<0.05			
	Hexachlorobenzene	1	< 0.05			
	Lindane	0.2	<0.02			
	Heptachlor	0.4	<0.01			
	Heptachlor epoxide	0.2	<0.01			
	Endrin	2	<0.01		·····	
	Methoxychlor	40	<0.05			
	Alachlor	2	<0.05			
	Chlordane	2	<0.10	<0.30		
	Toxaphene	3	<0.50	<1.5		
Г	Aroclor 1016	**	<0.26			1/2-8/13
	Aroclor 1221	**	<0.19			1
	Aroclor 1232	**	<0.23			
	Aroclor 1242	**	<0.26			
	Aroclor 1248	**	<0.30			
	Aroclor 1254	**	<0.33			
	Aroclor 1260	**	<0.36			5,1
	* Simazine	4	<0.07		* 	
	* Atrazine	3	< 0.05			
В	Unregulated (Phase II)					
	Metribuzin		<0.2			
	Aldrin		<0.01		····	
	Butachlor		<0.05			
	Dieldrin		<0.01			
	Metolachlor		<0.05			
	Propachlor		<0.1			
-	CI - Mariana Cantania					<u> </u>

MCL = Maximum Contaminant Level ND = Not Detectable NQ = Not Quantifiable

Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

* Using NP detector ** Any positive result would require analysis for total PCB as
decachlorobiphenyl by method 508A (MCL = 0.5 ug/L. The listed detection limits are the concentration
equivalent of 0.5 ug/L decachlorobiphenyl.

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER BRANCH CHAIN OF CUSTODY & SYNTHETIC ORGANIC CHEMICALS REPORT

Sample Point No. 426-9	/ Facility ID
Source Name: Proceede	
Sample Location: St. Peg.	
Cl2 Reading (if Chlorinated	1) <u>0.3/mg/L</u>
Print Sampler Name	Un Matsialy
Sampler Signature	more -
Date:	Time: 10,145
Collection Remarks:	
Relinquished by:	Date/Time:
Received by:	Date/Time:
Relinquished by:	Date/Time:
Received by:	Date/Time:
Delivered to Courier/Airport by:	Date//ime://2 /2:00
Received by:	Date/Tinge: 6.20
Relinquished by:	Date/Time:
•	
Received by:	Date/Time:
Defivered to Lab by	Date/Time: 955
Received for Lab by: Ret Punk	Date/Time: 1/23/13 955A
Locked in Refrig. by:	Date/Time:
Removed from Refrig. by:	Date/Time:
SDWB Administration Only Copies Done Pos. Result Sent System Chem Pos. Sent NI Office Inor. Mon. Data Entered Violation SDWB Data Neg. Result GIS Data Reduce Mon.	Lab Comments
Reported By: Pur Purl	Date 1/29/13
QA Check:	Date 1-30-13
Forwarded by:	N Date

SAMPLE LAB NO.

(13-01-0003

C	ontaminants	MCL (μg/L)	ND (μg/L)	NQ (μg/L)	Result (µg/L)	Date Analyzed
A	Regulated Organohalides					
	Hexachlorocyclo- pentadiene	50	<0.05			
	Hexachlorobenzene	1	<0.05			
	Lindane	0.2	<0.02			
	Heptachlor	0.4	<0.01			
	Heptachlor epoxide	0.2	<0.01		1	
	Endrin	2	<0.01			
	Methoxychlor	40	<0.05			
	Alachlor	2	<0.05	RESID		
	Chlordane	2	<0.10	<0.30		
	Toxaphene	3	<0.50	<1.5		
	Aroclor 1016	**	<0.26			1/28/13
	Aroclor 1221	**	<0.19			
	Aroclor 1232	**	<0.23			
	Aroclor 1242	**	<0.26			
\Box	Aroclor 1248	**	<0.30			
\Box	Aroclor 1254	**	<0.33			
	Aroclor 1260	**	<0.36			
	* Simazine	4	<0.07			
	* Atrazine	3	<0.05			
	Unregulated (Phase II)					
	Metribuzin		<0.2			
\Box	Aldrin		<0.01	Pality		
	Butachlor		<0.05			i
\Box	Dieldrin		<0.01			
\Box	Metolachlor		<0.05			
T	Propachlor		<0.1			

DEPARTMENT OF HEALTH LABORATORIES - SAFE DRINKING WATER	R BRANCH CHAIN	OF CUSTODY & <u>SY</u>	<u>NTHETI</u>	C ORGA	NIC CH	<u>IEMICAL</u>	S RE
Sample Point No. 428-004 Facility ID_	[SAMPLE LAI	3 NO.				
Source Name: frace/le		C13-02-0	086 A				
Sample Location: 790 After 41/ Reservoir Cl2 Reading (if Chlorinated) 0.37 mg/L				2700			
Cl2 Reading (if Chlorinated) 0.37 mg/L Print Sampler Name Steen Mafylg	C	Contaminants	MCL	ND	NQ	Result	D
Sampler Signature	-	D. 14.1	(µg/L)	(µg/L)	(µg/L)	(µg/L)	Ana
Date: 2/14/12 Time: 12.12	A	Regulated Organohalides					
Date: 1/14/13 Time: 10.'10 Collection Remarks: Puplicate A (f'Et Water), B 10.'25, C	10:35	Hexachlorocyclo- pentadiene	50	<0.05			
Relinquished by: Date/Time:		Hexachlorobenzene	1	< 0.05			
Received by: Date/Time:		Lindane	0.2	<0.02			
Relinquished by: Date/Time:		Heptachlor	0.4	<0.01			
		Heptachlor epoxide	0.2	<0.01			
Received by: Date/Time:		Endrin	2	< 0.01			
Delivered to Courier/Airport by: Later V/17/13 //	46	Methoxychlor	40	< 0.05			
Received by: Date/Time:	72	Alachlor	2	<0.05			
		Chlordane	2	<0.10	<0.30		
Relinquished by: Date/Time:		Toxaphene	3	<0.50	<1.5		
Received by: 2 / Date/Time: 0	1:20	Aroclor 1016	**	<0.26			2/10
Delivered to Lab by: 2 7 Date/Time: 0	-/ -	Aroclor 1221	**	<0.19			
Descripted from Lab hour	150	Aroclor 1232	**	<0.23	No.		
L. Sil. 2-15-13 9:	.50	Aroclor 1242	**	<0.26			
Locked in Refrig. by: R Sale, 2-15-13 Date/Time: 9.	55	Aroclor 1248	**	<0.30			
Removed from Refrig. by: Rate/Fime: 2/19/13		Aroclor 1254	**	<0.33			
		Aroclor 1260	**	<0.36			
SDWB Administration Only Copies Done Pos. Result		* Simazine	4	<0.07			
Sent System Chem Pos. T= 4,4°C		* Atrazine	3	< 0.05			
Sent NI Office Inor. Mon. Data Entered Violation	В	Unregulated					
SDWB Data Neg. Result		(Phase II)					
GIS DataReduce Mon.		Metribuzin		<0.2			
Reported By: P H-R /		Aldrin		<0.01			
The opening of	20/13	Butachlor		<0.05			
Pate 2/20, Forwarded by: Date 2/20, Date 2-2	1,2	Dieldrin	VALUE OF STREET	<0.01			
Forwarded by: 2/20	//5	Metolachlor		<0.05			
Forwarded by:	70-13 L	Propachlor		<0.1			
	M	CL = Maximum Contaminar	nt Level	ND = Not De	tectable	NQ = Not Qua	antifiable

REPORT

Date Analyzed

Method: EPA 508.1 Sample Dechlorination / Preservation: 50 mg Na₂SO₃ / 4ml 6N HCl

equivalent of 0.5 ug/L decachlorobiphenyl.





CALSCIENCE

WORK ORDER NUMBER: 13-02-1709

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Approved for release on 03/4/2013 by: Don Burley

Project Manager



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

ResultLink >

Email your PM >



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-02-1709

1	Client Sample Data	
2	Quality Control Sample Data	
3	Glossary of Terms and Qualifiers	5
4	Chain of Custody/Sample Receipt Form	6





Analytical Report



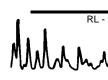
Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 02/28/13 13-02-1709 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Skim Sample		13-02-1709-1-A	02/27/13 08:23	Aqueous	GC 44	02/28/13	03/04/13 16:00	130228L01
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	4.4	0.25	1		ug/L			
St. Regis Pool Deck		13-02-1709-4-A	02/27/13 07:20	Aqueous	GC 44	02/28/13	03/04/13 13:38	130228L01
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	9.3	2.5	10		ug/L			
Method Blank		099-14-541-14	N/A	Aqueous	GC 44	02/28/13	03/04/13 12:41	130228L01
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			







Quality Control - LCS/LCS Duplicate

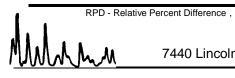


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-02-1709 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	Matrix Instrument		Date Prepared		Date Analyzed		LCS/LCSD Batch Number	
099-14-541-14	Aqueous	3	GC 44	02/2	28/13	03/04/13		130228L01	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.8168	118	0.8000	115	80-120	2	0-10	





Glossary of Terms and Qualifiers



Work Order Number: 13-02-1709

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



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7440 LINCOLN WAY	GARDEN GROVE, CA 92841-1427

CHAIN OF CUSTODY RECORD

H	nvironmental	GARDEN G	GARDEN GROVE, CA 92841-1427	141-1427										DATE:	.::							
	aboratories, Inc.	TEL: (714)	TEL: (714) 895-5494 . FAX: (714) 894-7501	: (714) 894	-7501				国			57		PAGE:				유 -				ı
ABOR	LABORATORY CLIENT:							SE	NT PROJE	CLIENT PROJECT NAME / NUMBER	/ NUMBE						P.O. NO] ::				_
		Princeville Utilities Company, Inc.	, Inc.					P.	nceville	Princeville Utilities Company, Inc.	Compa	nv. Inc.										
ADDRESS:	SS: 5-3541 Kubio Hiobway Suite 221	Suite 221						PRO	PROJECT CONTACT:	TACT						Ì	SAMP	SAMPLER(S): (PRINT)	(INI)			
	3-33+1 Kuliio i iigilway,	Jane 2.2. 1						2									i 5		<u> </u>			
CITY:	Princeville			STATE:	ZE.	96722		Ž	Michael Loo	Q												
TEL:	808-826-6100	E-MAIL: <u>mlc</u>	mloo@princeville.com	e.com									REQU	REQUESTED ANALYSES	D AN	IALY	SES					
TURNA S	TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR 図	⊠ 48 HR □	□ 72 HR □ 5	□ 5 DAYS [□ 10 DAYS	m			(44)													<u> </u>
ŏ	☐ COELT EDF GLOBAL ID:					TOG CODE	DE:		O-9O) 1				(98)									
SPECIA	SPECIAL INSTRUCTIONS:							i	960-90) Ot () dənq ((0	(XZ	or 218.6				
						pəAJi	eered ered	OR5 ro	O TO OPI TO	MTBE (8260)	3560)	(0828) sete	enoO smeT \	(8270) (1808) se	(280)	310) or (827		96 or 799 (A808	(2808			
LAB		SAMF	SAMPLING	No.	NO.		Servi		(p) _F	/ XΞ 		uə6/				8) sA	ISM 9					
ONLY	SAMPLE ID	DATE	TIME	MAIRIX	CONT.		-		ΙdΤ			œο				Νd	SZT					ī
	Skim Sample (Method 508A)	2/27/2013	8:234		-	×												×				ı
ι_{J}	Water (tap at 411) (Method 508A)	2/27/2013	n kois		-	×												×				
C√	Makai Tennis Shop	2/27/2013	かかた			×												×			·	
J	St.Regis Pool Deck	2/27/2013	V02:2		Ψ-	×												×				
																						I
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Relinqu	Relinquished by: (Signature)	PASADAVA	else.		Recoi	coived by:	Signaturc/Affiliation)	s/Affiliatie	(uc	y	y	3		,		Date:	7	1/3	Time:	8:4	(5 A	age
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Reling	Relinquished by: (Signature)				Recei	ved by: (Received by: (Signature/Affiliation)	9/Affiliatio	(IIC							Date:	+		Time:			9
																						_



From: (808) 826-6100 Michael Loo Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221 4261 Kekuanaoa Lane Princeville, HI 96722

SHIP TO: (714) 895-5494

Origin ID: LIHA



BILL SENDER

Don Burley Calscience Environmental Lab. 7440 LINCOLN WAY

GARDEN GROVE, CA 92841



Ship Date: 27FEB13 ActWgt: 40.0 LB CAD: 7665451/INET3370

Dims: 20 X 14 X 18 IN



Ref# Invoice# PO# Dept#

TRK# 0201

7948 4471 4374

THU - 28 FEB 10:30A PRIORITY OVERNIGHT

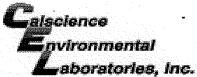
WZ APVA

92841 CA-US

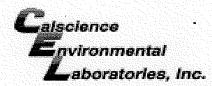
SNA







Laboratories, inc.	AMPLE REC	CEIPT FOR	RM Go	ooler <u> </u>	of
CLIENT: Princeville	Ulility		DATE:_	02/28	/13
TEMPERATURE: Thermometer II Temperature	o.2°C (CF) = 4 criteria (PM/APM contact		Blank	□ Sample	
☐ Received at ambient temperate Ambient Temperature: ☐ Air				Initial:	H
CUSTODY SEALS INTACT:					
□ Cooler □	☐ No (Not Intact)	Not Present	□ N/A	Initial:	H-
□ Sample □	□ No (Not Intact)	Not Present		Initial: ,	wic
SAMPLE CONDITION: Chain-Of-Custody (COC) document COC document(s) received completed Collection date/time, matrix, and/or and the completed of the complete completed of the complete completed of the complete co	ete # of containers logged in ba	nples		No	N/A
Sampler's name indicated on COC		•			П
Sample container label(s) consiste					
Sample container(s) intact and goo					
Proper containers and sufficient vo					, 🗆
Analyses received within holding ti	me	سم			
pH / Res. Chlorine / Diss. Sulfide /	Diss. Oxygen received	d within 24 hours			1
Proper preservation noted on COC	or sample container		a		
☐ Unpreserved vials received for Vo	olatiles analysis				
Volatile analysis container(s) free of					A
Tedlar bag(s) free of condensation CONTAINER TYPE:		,			A
Solid: □4ozCGJ □8ozCGJ □	16ozCGJ □Sleeve (_) □EnCores	[®] □TerraCo	ores [®] □	
Water: □VOA □VOAh □VOAna	ı₂ □125AGB □125A	GBh □125AGBp /	⊠1AGB □1	IAGB na₂ □	1AGB s
□500AGB □500AGJ □500AGJ	s □250AGB □2500	CGB □250CGBs	□1PB □1	IPB na □5	00PB
□250PB □250PB n □125PB □	125PB znna □100PJ	□100PJ na₂ □			
Air: DTedlar® DCanister Other Container: C: Clear A: Amber P: Plastic G: G: Preservative: h: HCL n: HNO ₃ na ₂ :Na ₂ S ₂ O ₃ na ₂	lass J: Jar B: Bottle Z: Ziploc	/Resealable Bag E: Enve	elope Re v	viewed by: _	



												0		

SAMPLE ANOMALY FORM

SAMPLI	ES - CC	NTAIN	ERS & L	ABELS:			Comm	ents:	
☐ Sample ☐ Hold ☐ Insuf ☐ Impre ☐ Impre ☐ No p	ple(s) re ing time fficient (oper co oper pre reserva	eceived le e expired quantitie ntainer(s eservative tive note	out NOT I I – list sar es for ana s) used – ve used – ed on CO	list test C or label –	COC nd test est list test 8	& notify lat			
□ Sam □ □	ple labe Sample Date ar Project # of Co	I(s) do n ID Id/or Tin Informa Intainer(ot match ne Collec	test/containe COC – Note		nents	(-2),63	3) Yeuiv	ed broken.
. ☐ Sam	Water particular ple contesting ple	tainer(s) present i tainer(s) containe w in volu g (Not tr g (transf	n sample not label er(s) com ume ansferred	nised – Note container ed promised – d - duplicate o Calscienc o Client's To	Note in o bag sul e Tedlar	comments omitted) [®] Bag*)			
Sample #	Container	# of Vials Received	ners wit	h Bubble >	# of Vials Received	r ¼ inch Sample #	Container ID(s)	# of Cont. received	Analysis
*Transferr		ent's requ	est				i i	nitial / Date:	W5-02/28/13





CALSCIENCE

WORK ORDER NUMBER: 13-03-0293

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

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Approved for release on 03/8/2013 by: Don Burley Project Manager

SE DEL

ResultLink >

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Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



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Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-0293

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3	Glossary of Terms and Qualifiers	5
4	Chain of Custody/Sample Receipt Form	6



Analytical Report



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 03/06/13 13-03-0293 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

7	1 7,							
Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch II
Skim Sample		13-03-0293-1-A	03/05/13 08:00	Aqueous	GC 44	03/08/13	03/08/13 15:04	130308L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
ecachlorobiphenyl	8.7	2.5	10		ug/L			
Water (tap at 411)		13-03-0293-2-A	03/05/13 08:20	Aqueous	GC 44	03/08/13	03/08/13 16:21	130308L21
Parameter_	<u>Result</u>	RL	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Makai Tennis Shop		13-03-0293-3-A	03/05/13 07:40	Aqueous	GC 44	03/08/13	03/08/13 16:35	130308L21
Parameter_	<u>Result</u>	RL	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
St. Regis Pool Deck		13-03-0293-4-A	03/05/13 07:12	Aqueous	GC 44	03/08/13	03/08/13 16:51	130308L21
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	Units			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Method Blank		099-14-541-15	N/A	Aqueous	GC 44	03/08/13	03/08/13 15:35	130308L21
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			





FAX: (714) 894-7501



Quality Control - LCS/LCS Duplicate

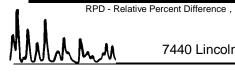


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-03-0293 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	ļ	nstrument		ate pared	Date Analyzed	d L	LCS/LCSD Batch Number	
099-14-541-15	Aqueous		GC 44	03/	08/13	03/08/13		130308L21	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.6655	96	0.7162	103	80-120	7	0-10	





Glossary of Terms and Qualifiers

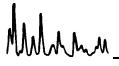


Work Order Number: 13-03-0293

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



alscience	7440 LINCOLN WAY	OLN WAY											5	Z	7 7	2	כב	CHAIN OF CUSTODY RECORD	Ž	
nvironmental	GARDEN G	GARDEN GROVE, CA 92841-1427	341-1427				# OM	WO#7/LAB USE ONL	<u></u>			DATE:	 ننب							
aboratories, Inc.	TEL: (714)	TEL: (714) 895-5494 . FAX: (714) 894-7501	(: (714) 89.	1-7501				3-03-0293		8		PAGE:	ij			<u>p</u>			*	
ABORATORY CLIENT:		-					CLIENT	PROJECT	JAME / NU	MBER:					P.O. NO.	::				
	Princeville Utilities Company, Inc.	', Inc.					Princ	Princeville Utilities Company, Inc.	ities Cor	npany, l	nc.									
ADDRESS: 5-3541 Kuhio Highway, Suite 221	Suite 221						PROJEC	PROJECT CONTACT:	F						SAMPL	SAMPLER(S): (PRINT)	INT)			
OITY: Princeville			STATE:	ZIP:	96722		Mich	Michael Loo												
TEL: 808-826-6100	E-MAIL: <u>mlo</u>	mloo@princeville.com	lle.com								REQ	REQUESTED		ANALYSES	SES					
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DNLY:	DATE	TIME	MATRIX	CONT.				HQT HQT	378						SST					
Skim Sample (Method 508A)	3/5/2013	8:00 AM			×			***************************************					·			×				
Water (tap at 411) (Method 508A)	3/5/2013	8:20 AM			×											×				
Makai Tennis Shop	3/5/2013	7:40 AM		1	×											×				
St.Regis Pool Deck	3/5/2013	7:12 AM		~	×					- 1000						×				
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From: (808) 826-6100 Michael Loo Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221 4261 Kekuanaoa Lane Princeville, HI 96722 Origin ID: LIHA



J13101212190326

BILL SENDER

SHIP TO: (714) 895-5494

Don Burley Calscience Environmental Lab. 7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ship Date: 05MAR13 ActWgt: 40.0 LB CAD: 7665451/INET3370

Dims: 11 X 20 X 14 IN

Delivery Address Bar Code



Ref# Invoice# PO# Dept#

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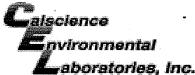
WZ APVA

92841 CA-US SNA



518G2/DCF8/93AE





WORK ORDER #: 13-03- 2 2 9 5

Laboratories, Inc.			
SAMPLE RECEIPT FO CLIENT: Princeville Utility		Cooler 03	of(/06/13
	<u> </u>		
TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not froze		sediment/tis	ssue)
Temperature $\underline{5} \cdot \underline{4} ^{\circ}\text{C} \cdot 0.2 ^{\circ}\text{C} (CF) = \underline{5} \cdot \underline{2} ^{\circ}\text{C}$	Blank	☐ San	nple
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).			
\square Sample(s) outside temperature criteria but received on ice/chilled on same d	ay of sam	oling.	
☐ Received at ambient temperature, placed on ice for transport by Co	urier.		
Ambient Temperature: ☐ Air ☐ Filter		lni	tial:
	***		//
CUSTODY SEALS INTACT:			
□ Cooler □ □ No (Not Intact) □ Not Present	□ N/A	A In	itial: 4
□ Sample □ □ No (Not Intact) ✓ Not Present		lni	itial:
SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples		П	
COC document(s) received complete			
Collection date/time matrix, and/or # of containers logged in based on sample labels.		7-	_
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	П.		
Sample container label(s) consistent with COC			
Sample container(s) intact and good condition			
Proper containers and sufficient volume for analyses requested	. /		
Analyses received within holding time	' /		
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	. 🗆 🦯		
Proper preservation noted on COC or sample container			
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	. 🗆 .		
Tedlar bag(s) free of condensation CONTAINER TYPE:	. 🗆		A
Solid: 40zCGJ 80zCGJ 160zCGJ Sleeve () EnCores	s® □,Terr	aCores®	
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp	Z1AGB	□1AGBn	a₂ □1AGBs
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs	□1РВ	□1PB na	□500PB
□250PB □250PB n □125PB □125PB znna □100PJ □100PJ na ₂ □		\$-al-al-Al-al-al-al-al-al-al-al-al-al-al-al-al-al	
Air: ☐Tedlar® ☐Canister Other: ☐ Trip Blank Lot#: Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: En		d/Checked Reviewed	

Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by:





CALSCIENCE

WORK ORDER NUMBER: 13-03-0933

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Approved for release on 03/18/2013 by: Don Burley

Project Manager



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

ResultLink >

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Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-0933

1	Client Sample Data	
2	Quality Control Sample Data	
3	Glossary of Terms and Qualifiers	6
4	Chain of Custody/Sample Receipt Form	7



Analytical Report



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 03/14/13 13-03-0933 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 2

ompany, in	0.					1 0	ige i oi z
	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
	13-03-0933-1-A	03/13/13 11:20	Aqueous	GC 44	03/14/13	03/15/13 19:04	130314L21
Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
3.7	2.5	10		ug/L			
	13-03-0933-2-A	03/13/13 11:05	Aqueous	GC 44	03/14/13	03/15/13 19:18	130314L21
Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
ND	0.25	1		ug/L			
	13-03-0933-3-A	03/13/13 10:50	Aqueous	GC 44	03/14/13	03/15/13 19:32	130314L21
Result	RL	DF	Qual	Units			
0.26	0.25	1		ug/L			
	13-03-0933-4-A	03/13/13 10:30	Aqueous	GC 44	03/14/13	03/15/13 19:46	130314L21
Result	RL	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
ND	0.25	1		ug/L			
	13-03-0933-5-A	03/13/13 10:00	Aqueous	GC 44	03/14/13	03/15/13 20:01	130314L21
Result	RL	DF	Qual	Units			
0.93	0.25	1	<u> </u>	ug/L			
	13-03-0933-6-A	03/13/13 09:50	Aqueous	GC 44	03/14/13	03/15/13 20:15	130314L21
<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
1.7	0.25	1		ug/L			
	Result ND Result ND Result ND Result ND Result ND Result ND	Lab Sample Number 13-03-0933-1-A Result RL 2.5 13-03-0933-2-A Result RL 0.25 13-03-0933-3-A Result RL 0.26 13-03-0933-4-A Result RL 0.25 13-03-0933-5-A Result RL 0.93 0.25 Result RL 0.93 0.25	Lab Sample Number Date/Time Collected 13-03-0933-1-A 03/13/13 Result 3.7 RL DE	Lab Sample Number Date/Time Collected Collected Collected Collected Matrix Result 13-03-0933-1-A 03/13/13 Aqueous 11:20 Result 3.7 RL DF Qual 11:05 13-03-0933-2-A 03/13/13 Aqueous 11:05 Result ND 0.25 1 13-03-0933-3-A 03/13/13 Aqueous 10:50 Result RL DF Qual 0.26 DE Qual 10:30 Result ND 0.25 1 13-03-0933-4-A 10:30 Aqueous 10:30 Result ND 0.25 1 13-03-0933-5-A 10:30 Aqueous 10:30 Result RL DF Qual 10:30 Qual 10:30 Result Result 0.93 0.25 1 Result RL DF Qual 10:30 Qual 10:30 Result Result 0.93 DF Qual 10:30	Lab Sample Number Collected Matrix Instrument	Lab Sample Number Date/Time Collected Collected Collected Collected Collected Natrix Matrix Instrument Prepared Prepared Prepared Prepared Prepared Number Result 13-03-0933-1-A 03/13/13 11:20 Aqueous GC 44 03/14/13 Result 3.7 RL 2.5 10 Qual Units ug/L 03/14/13 Result ND RL DF Qual Units ug/L Units ug/L 0.25 1 Qual Units ug/L Result ND RL DF Qual Units ug/L Units ug/L 0.26 0.25 1 Qual Units ug/L Result ND 0.25 1 Qual Units ug/L 0.26 0.25 1 Units ug/L ND 0.25 1 Qual Units ug/L 0.3/14/13 0.26 0.25 0.25 0.25 0.26 0.25 0.25 0.26 0.25 0.25 0.26 0.25 0.26 0.25 0.26 0.26 0.26 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 0.27 <td> Lab Sample Number Date/Time Collected Matrix Instrument Prepared Analyzed </td>	Lab Sample Number Date/Time Collected Matrix Instrument Prepared Analyzed



DF - Dilution Factor , Qual





Analytical Report



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

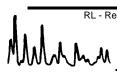
Date Received: Work Order No: Preparation: Method:

03/14/13 13-03-0933 **EPA 508A EPA 508A**

Project: Princeville Utilities Company, Inc.

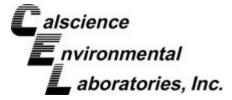
Page 2 of 2

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank		099-14-541-16	N/A	Aqueous	GC 44	03/14/13	03/15/13 18:21	130314L21
Parameter Decachlorobiphenyl	Result ND	<u>RL</u> 0.25	<u>DF</u> 1	Qual	<u>Units</u> ug/L			



Qual - Qualifiers





Quality Control - LCS/LCS Duplicate

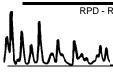


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-03-0933 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	I	nstrument		ate pared	Date Analyzed	d	LCS/LCSD Batch Number	
099-14-541-16	Aqueous		GC 44	03/	14/13	03/15/13		130314L21	
<u>Parameter</u>	<u>SPIKE</u> ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.7184	103	0.7973	115	80-120	10	0-10	





Glossary of Terms and Qualifiers



Work Order Number: 13-03-0933

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



Received by: (Signature/Affiliation)	Date:	Time:
 Return to Contents		06/01/10 Revision

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nvironmental	GARDEN GI TEL: (714) 8	GARDEN GROVE, CA 92841-1427 TEL: (714) 895-5494 . FAX: (714) 894-7501	41-1427 :: (714) 894	-7501	•	/# OM	LAB USE ON!				DATE: PAGE:		2/13/	0 22 C3	2 P			
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ADDRESS: 5-3541 Kuhio Highway, Suite 221	Suite 221					PROJE	PROJECT CONTACT:		tind,				\ds	MPLER(S	SAMPLER(S): (PRINT)			
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TEL: 808-826-6100	E-MAIL: <u>mlo</u>	mloo@princeville.com	e.com					-		REQUESTED ANALYSES	ESTE	D AN	/LYSE	S				
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Skim Sample 9847 & 9825	3/13/2013	Carl Was [1]	Gry	2	×										×			
7 Ranch 9849 & 9821	3/13/2013	W.05a	-	2	×										×			
3 Makai Tennis Shop 9824 & 9845	3/13/2013	10:502-		2	×										×			
St. Regis Pool Deck 9830 & 9843	3/13/2013	10:30c		2	×										×			
Well #2 Pre-clor 9827 & 3006	3/13/2013	700: 6 1		2	×										×			
Well #2 Post-clor 2813 & 9828	3/13/2013	9:50	>	2	×										×			

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SHIP DATE: 13MAR13 ACTWGT: 33.0 LB MA CAD: /POS1400 DIMS: 22x13x11 IN

BILL RECIPIENT

UNITED STATES US

DON BURLEY CALSCIENCE ENVIRONMENTAL LABS 7440 LINCOLN WAY

GARDEN GROVE CA 92841

(714) 895 - 5494

REF:

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ÚNITED STATES US

TO DON BURLEY
CALSCIENCE ENVIRONMENTAL LABS
7440 LINCOLN WAY

GARDEN GROVE CA 92841

(714) 895 – 5494

REF:

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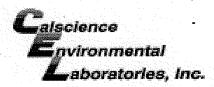
1 of 2 TRK# 8022 2817 5438 ## MASTER ##

W1 APVA

THU - 14 MAR 8:00A FIRST OVERNIGHT

> 92841 ca-us SNA





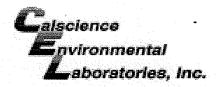
WORK ORDER #: 13-03- □ 🖾 🗿 💆

SAMPLE RECEIPT FORM

Cooler \ of 2

CLIENT:	BINCEINUE!	Jaunes a	5 •		DATE:	03 / 4 / 13
7 7 8 7 8 8 8 -	The second secon	No.				ente propinsi de la compansi de la c

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)
Temperature°C - 0.2°C (CF) =°C ☑ Blank ☐ Sample
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).
☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.
☐ Received at ambient temperature, placed on ice for transport by Courier.
Ambient Temperature: ☐ Air ☐ Filter Initial:
CUSTODY SEALS INTACT:
□ Cooler □ □ No (Not Intact) ☑ Not Present □ N/A Initial: □ □
□ Sample □ □ □ No (Not Intact) ☑ Not Present Initial: ⚠
SAMPLE CONDITION: Yes No N/A
Chain-Of-Custody (COC) document(s) received with samples
COC document(s) received complete
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.
Sampler's name indicated on COC
Sample container label(s) consistent with COC
Sample container(s) intact and good condition
Proper containers and sufficient volume for analyses requested
Analyses received within holding time
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours
Proper preservation noted on COC or sample container
☐ Unpreserved vials received for Volatiles analysis
Volatile analysis container(s) free of headspace □ □ □
Tedlar bag(s) free of condensation
Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □EnCores® □TerraCores® □
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp 超1AGB □1AGBna₂ □1AGBs
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □1PBna □500PB
□250PB □250PBn □125PB □125PBznna □100PJ □100PJna ₂ □ □ □ □ □ □
Air: Tedlar® Canister Other: Trip Blank Lot#: Labeled/Checked by: Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: Preservative: h: HCL n: HNO3 na2:Na2S2O3 na: NaOH p: H3PO4 s: H2SO4 u: Ultra-pure znna: ZnAc2+NaOH f: Filtered Scanned by:

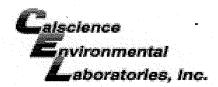


WORK ORDER #: 13-03- 1 9 9 5

E RECEIPT FORM

Cooler $\frac{2}{}$ of $\frac{2}{}$

CLIENT: MANCENUE CHICKIES CO. DATE: U3/4/13
TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)
Temperature°C - 0.2°C (CF) =°C ☑ Blank □ Sample
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).
☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.
☐ Received at ambient temperature, placed on ice for transport by Courier.
landing and the land the land to the land
Ambient Temperature: Air Filter Initial:
CUSTODY SEALS INTACT:
□ Cooler □ □ No (Not Intact) ☑ Not Present □ N/A Initial: ₩
□ Sample □ □ No (Not Intact) □ Not Present Initial:
SAMPLE CONDITION: Yes No N/A
Chain-Of-Custody (COC) document(s) received with samples
COC document(s) received complete
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.
Sampler's name indicated on COC
Sample container label(s) consistent with COC
Sample container(s) intact and good condition
Proper containers and sufficient volume for analyses requested
Analyses received within holding time
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours □ □ □
Proper preservation noted on COC or sample container
☐ Unpreserved vials received for Volatiles analysis
Volatile analysis container(s) free of headspace □ □ □
Tedlar bag(s) free of condensation
Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □EnCores® □TerraCores® □
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp ☑1AGBna₂ □1AGBs
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □1PB na □500PB
□250PB □250PBn □125PB □125PB znna □100PJ □100PJ na₂ □ □ □
Air: □Tedlar [®] □Canister Other: □ Trip Blank Lot#: Labeled/Checked by:
Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: Preservative: h: HCL n: HNOs nac: NacScop na: NacH n: HoPO, s: HoSO, u: Ultra-pure znna: ZnAcs+NacH f: Eiltered Scanned by:



WORK ORDER #: 13-03- 9 3 3

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:	Comments	s:	
Sample(s) NOT RECEIVED but listed on COC Sample(s) received but NOT LISTED on COC Holding time expired − list sample ID(s) and test Insufficient quantities for analysis − list test Improper container(s) used − list test Improper preservative used − list test No preservative noted on COC or label − list test & notify lab Sample labels illegible − note test/container type Sample label(s) do not match COC − Note in comments Sample ID Date and/or Time Collected Project Information # of Container(s) Analysis Sample container(s) compromised − Note in comments Water present in sample container	1 of 2 (-2) Ran	bottles nch q:	
□ Broken □ Sample container(s) not labeled □ Air sample container(s) compromised – Note in comments □ Flat □ Very low in volume □ Leaking (Not transferred - duplicate bag submitted) □ Leaking (transferred into Calscience Tedlar® Bag*) □ Leaking (transferred into Client's Tedlar® Bag*) □ Other:			clor 982\$
HEADSPACE – Containers with Bubble > 6mm or ¼ inch:			
Sample # Container # of Vials Sample # Container ID(s) # of Vials Received Sample #		of Cont. ceived	Analysis
*Transferred at Client's request.	Initial	I / Date:	NC 03/14/13

External Standard Report

Data File Name : W:\DATA\130312A\13031216.D

Operator : 421 Vial Number : Vial 15

Sequence Line : 17 : GC 44 : 13-03-0512-1A Instrument

Sample Name

10200

Running Method : C:\CHEM32\1\METHODS\8081D-N->Report Style : PEST-F

Acquired on : 12 Mar 13 02:27 pm Method : EPA 8081A Report Created on: 12 Mar 13 03:46 pm Software Version : Rev. B.03.01 [317]

Copyright © Agilent Comment

Analysis Method : C:\CHEM32\1\METHODS\508A130308F.M Technologies

Sig. ECD1A, W:\DATA\130312A\13031216.D Area Type Width Ref # ppb Ret Time

8.181 55285.3VB 0.035 75.184 Decachlorobiphenyl

ECD1 A, Front Signal (W:\DATA\130312A\13031216.D) 50000 -Decachlorobiphenyl 40000 -30000 20000 10000 min





CALSCIENCE

WORK ORDER NUMBER: 13-03-1506

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

Analytical Report For

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

Attention: Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Approved for release on 03/26/2013 by: Don Burley

Project Manager



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience

is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

ResultLink >

Email your PM >



Contents

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-1506

1	Client Sample Data	
2	Quality Control Sample Data	
3	Glossary of Terms and Qualifiers	6
4	Chain of Custody/Sample Receipt Form	7



Analytical Report



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 03/21/13 13-03-1506 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 2

Project: Princeville Utilitie	es Company, i	nc.					Pa	ige 1 of 2
Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
St. Regis Pool Deck		13-03-1506-1-A	03/20/13 09:20	Aqueous	GC 44	03/22/13	03/26/13 09:27	130322L21
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Makai Tennis Shop		13-03-1506-2-A	03/20/13 09:45	Aqueous	GC 44	03/22/13	03/26/13 09:41	130322L21
Parameter_	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
EPD at Ranch House		13-03-1506-3-A	03/20/13 10:05	Aqueous	GC 44	03/22/13	03/26/13 09:55	130322L21
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Well #2 Pre Chlorination		13-03-1506-4-A	03/20/13 08:30	Aqueous	GC 44	03/22/13	03/26/13 10:10	130322L21
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Well #2 Post Chlorination		13-03-1506-5-A	03/20/13 08:30	Aqueous	GC 44	03/22/13	03/26/13 10:24	130322L21
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	Units			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Well #1 Pre Chlorination		13-03-1506-6-A	03/20/13 10:30	Aqueous	GC 44	03/22/13	03/26/13 10:38	130322L21
² arameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	0.34	0.25	1		ug/L			



DF - Dilution Factor

Qual - Qualifiers





Analytical Report



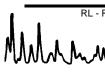
Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 03/21/13 13-03-1506 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 2 of 2

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank		099-14-541-17	N/A	Aqueous	GC 44	03/22/13	03/26/13 09:12	130322L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			



Qual - Qualifiers





Quality Control - LCS/LCS Duplicate

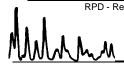


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-03-1506 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	I	nstrument		ate pared	Date Analyzed	d	LCS/LCSD Batch Number	
099-14-541-17	Aqueous	i	GC 44	03/2	22/13	03/26/13		130322L21	
<u>Parameter</u>	<u>SPIKE</u> ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.5596	81	0.5605	81	80-120	0	0-10	



RPD - Relative Percent Difference , CL - Control Limit



Glossary of Terms and Qualifiers



Work Order Number: 13-03-1506

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

% moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



alscience	7440 LINCOLN WAY
nvironmental	GARDEN GROVE, C

alscience	7440 LINCOLN WAY GARDEN GROVE, CA 92841-1427	, A 92841-	1427				/# O/M	LAB USE ON	ONLY) DATE:	AH N	N 0 2	CHAIN OF CUSTODY RECORD $3/29/26/3$	STO	DΥ	REC	ORE	0
aboratories, Inc.	·TEL: (714) 895-5494 . FAX: (744) 894-7501	. FAX: (7	14) 894-	7501		•		뗩	3-03-150	国			PAGE:			_	OF.	-			
RY CLIENT:	Princeville Utilities Company, Inc.						CLIENT	PROJEC	CLIENT PROJECT NAME / NUMBER: Princeville Utilities Company. Inc.	IUMBER: S Cor	npany	<u>1</u> 10.			<u></u>	P.O. NO.:					
ODRESS: 5-3541 Kuhio Highway, Suite 221	Suite 221					ag has t	PROJE	PROJECT CONTACT:	ACT:		-				0)	SAMPLER(S): (PRINT)	S): (PRINT				T
Princeville		S	STATE:	H ZIP.	96722		Mich	Michael Loo								Sen Oven	ð	వ]
808-826-6100	E-MAIL: mloo@princeville.com	ceville.	Wo:								R	GUE	STEI	AN/	REQUESTED ANALYSES	ES					
URNAROUND TIME: ☐ SAME DAY ☐ 24 HR 区 48 HR	□ 72 HR	□ 5 DAYS		DAYS				(44)	(
COELT EDF GLOBAL ID:					LOG CODE:	ш		D-9D) 1((300	(000				[
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	SAMPLING	-		NO.	resei serve	d Filt	o (6) _F			8) sO				8) s8			9) SB	8) SB			
SE SAMPLE ID	DATE TIME	Γ	MATRIX	CONT.			ldТ		19T 3T8	ΟΛ		\dashv		Эа		\dashv	ЭЧ	ЭЧ			
St, Regis Pool Deck	3/20/2013 9:20mm	 	5	7	×												×			<u></u>	
Makai Tennis Shop	3/20/2013 9:45am	4		2	×											_	×				Ī
EPD at Ranch House	3/20/2013 10:05	, હૂ		7	×						-						×				
Well #2 Pre Chlorination	3/20/2013 8:30	3		2	×												×				
Well #2 Post Chlorination	3/20/2013 6:30/	4		2	×												×				T
Well #1 Pre Chlorination	3/20/2013 10:80m	ak	A)	2	×												×				T
Well #2 Post Chlorination	3/20/2018				×												×				T
Relinquished Dr. (Signature)	8/00/13	Ja:21	لح	Rece	Received by: (Signature/Affiliation)	Signature	/Affiliatio	(L							Date:			Time:			age
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Relinquished by: (Signature)	The state of the s			Rece	Received by: (Signature/Affilation	Signature	/Affiliatio) C							Date:			Time:			

06/01/10 Revision

SHIP TO: (714) 895-5494

BILL SENDER

J13111302120326

Don Burley Calscience Environmental Lab. 7440 LINCOLN WAY

GARDEN GROVE, CA 92841

Ref# Invoice # PO# Dept#

Page 8 of 11

THU - 21 MAR 10:30A

Feo Ex.

TRK# 7993 2018 4099

PRIORITY OVERNIGHT

92 APVA

92841 SNA



From: (808) 826-6100 Michael Loo Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221 4261 Kekuanaoa Lane Princeville, HI 96722

Origin ID: LIHA



BILL SENDER

SHIP TO: (714) 895-5494 Don Burley Calscience Environmental Lab. 7440 LINCOLN WAY

*ARDEN GROVE, CA 92841

Ship Date: 20MAR13 ActWgt: 40.0 LB CAD: 7665451/INET3370

Dims: 24 X 13 X 14 IN



Ref# Invoice # P0# Dept#

> THU - 21 MAR 10:30A PRIORITY OVERNIGHT

TRK# 0201

7993 2018 8142

92841 CA-US SNA

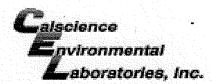


E RECEIPT FORM

Cooler / of 2

CLIENT: JANCEVILLE DATE: U3/2/13
TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)
Temperature
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).
☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.
☐ Received at ambient temperature, placed on ice for transport by Courier.
Ambient Temperature: ☐ Air ☐ Filter Initial:
CUSTODY SEALS INTACT:
□ Cooler □ □ No (Not Intact) □ Not Present □ N/A Initial:
□ Sample □ □ No (Not Intact) ☑ Not Present Initial: <u>ਪ</u>
SAMPLE CONDITION: Yes No N/A
Chain-Of-Custody (COC) document(s) received with samples □
COC document(s) received complete
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.
Sampler's name indicated on COC
Sample container label(s) consistent with COC
Sample container(s) intact and good condition
Proper containers and sufficient volume for analyses requested
Analyses received within holding time
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours
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Tedlar bag(s) free of condensation
Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □EnCores® □TerraCores® □
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp Ø1AGB □1AGBna₂ □1AGBs
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □1PBna □500PB
□250PB □250PBn □125PB □125PB znna □100PJ □100PJ na ₂ □ □ □
Air: ☐ Tedlar® ☐ Canister Other: ☐ Trip Blank Lot#: Labeled/Checked by:

Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: _



WORK ORDER #: 13-03-11 5 0

SAMPLE RECEIPT FORM cooler 2 of 2

CLIENT: PRINCEVILLE			DATE:	03/2	1/13
TEMPERATURE: Thermomete Temperature 3 9 0 Sample(s) outside temperatur Sample(s) outside temperatur Received at ambient temper Ambient Temperature: Air	c - 0.2 °C (CF) = 3 e criteria (PM/APM contact e criteria but received on ic	ted by:).] Blank ny of samplin	⊒ ' Sample	PJ.
CUSTODY SEALS INTACT: Cooler Sample	□ No (Not Intact) □ No (Not Intact)	✓ Not Present ✓ Not Present	□ N/A	Initial Initial	J
SAMPLE CONDITION:		<u>Statement i de la composition della composition</u>	⁄es	No	N/A
Chain-Of-Custody (COC) docum	ent(s) received with san	ıples	Ø		
COC document(s) received com	plete		Ø		
☐ Collection date/time, matrix, and/o	or # of containers logged in ba	sed on sample labels.			
☐ No analysis requested. ☐ Not	relinquished. No date/	time relinquished.			
Sampler's name indicated on CC	OC		Ø		
Sample container label(s) consis	tent with COC		D 3	ď	<u>.</u>
Sample container(s) intact and g			/ 1 1		
Proper containers and sufficient					
Analyses received within holding					
pH / Res. Chlorine / Diss. Sulfide	化基金分类 医二基氏征 化二氯甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基甲基	,			Ø
Proper preservation noted on CC					
☐ Unpreserved vials received for					
Volatile analysis container(s) free		· · · · · · · · · · · · · · · · · · ·			Á
Tedlar bag(s) free of condensation CONTAINER TYPE:					Ø
Solid: □4ozCGJ □8ozCGJ [□16ozCGJ □Sleeve (_) □EnCores	® □Terra0	Cores [®] □_	
Water: □VOA □VOAh □VOA]1AGB s
□500AGB □500AGJ □500AG		<i>1</i> .			
□250PB □250PB n □125PB [The second second			
Air: □Tedlar [®] □Canister Oth			1.5.1.1.1		40
Container: C: Clear A: Amber P: Plastic G:				eviewed by:	

Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered

Scanned by:

SAMPLE ANOMALY FORM

SAMPLE	s - co	NTAINE	ERS & LA	ABELS:	,		Comme	nts:		
□ Samp □ Samp □ Holdi □ Insuf □ Impro □ No po □ Samp □ Samp	ole(s) No ole(s) red ing time ficient q oper cor oper pre reservat ole label Sample	or RECE ceived be expired uantitie stainer(s servativ ive note s illegib (s) do n ID d/or Tin	elVED but NOT L — list sands) used — re used — red on COO le — note ot match he Collection	t listed on C ISTED on C aple ID(s) an Iysis – list te list test list test C or label – test/containe COC – Note	OC Id test est list test 8 er type		(-1) t de 3/-	hvough te p 21/13.	(-6) ev (Collection Label is
	Analysi	•	-)							
	•		compror	nised – Note	e in comr	nents				
	*	• •	-,	container						
	Broken		•							
☐ Sam	ple cont	ainer(s)	not label	ed		,				
☐ Air s	sample o	ontaine	r(s) com	promised –	Note in c	comments		,		· · · · · · · · · · · · · · · · · · ·
	Flat									
	Very lov	w in volu	ume							
				d - duplicate						
				o Calscienc						
	Leaking	g (transf	erred into	o Client's Te	edlar [®] Ba	ag*)				
☐ Othe	r:									
HEADS	PACE -	Contai	ners wit	h Bubble >	6mm o	or ¼ inch				
Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received		Analysis
				· · · · · · · · · · · · · · · · · · ·						
								I	<u> </u>	
Commen	ts:									
*Transferi	red at Clie	ent's requ	est.				lr	nitial / Da	ite: <i>b</i>	C 03/2-1/13
										SOR T400 000 (08/34/14



5-3541 Kuhio Highway, Suite 221

Princeville, Hawaii 96722

Page 1 of 7

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Lab Project #

M13-13545

Chain of Custody attached Rec

Received:

3/22/2013

Reported:

3/28/2013

Date/Time Sampled:

03/20/2013 09:25

Sampled By:

Unknown

Sampled Matrix:

Water

Containers:

2

Collection Method:

Grab

Sample ID:

Project Name:

Attn: Michael Loo

St. Regis Pool Deck

Princeville Utilities Company Inc.

Lab Sample #

M13-13545-01

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 10:50

Analysis Certified By:

Rhonda C Morris

This report shall not be reproduced, except in its entirety, without the written approval of the laboratory.

The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.



5-3541 Kuhio Highway, Suite 221

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project #

M13-13545

Received:

3/22/2013

Reported:

3/28/2013

Date/Time Sampled:

03/20/2013 09:40

Sampled By:

Unknown

Sampled Matrix:

Water

Containers:

2

Collection Method:

Grab

Sample ID:

Makai Tennis Shop

Princeville Utilities Company Inc.

Lab Sample #

Project Name:

Attn: Michael Loo

Princeville, Hawaii 96722

M13-13545-02

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 12:37

Analysis Certified By:

Rhonda C Morris



5-3541 Kuhio Highway, Suite 221

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project #

M13-13545

Received: Reported:

3/22/2013 3/28/2013

Date/Time Sampled:

03/20/2013 10:00

Sampled By:

Unknown

Sampled Matrix:

Water

Containers:

2

Collection Method:

Grab

Sample ID:

Project Name:

Attn: Michael Loo

Princeville, Hawaii 96722

EPD At Ranch House

Princeville Utilities Company Inc.

Lab Sample #

M13-13545-03

Results of the method 508 Arochlor Screen indicates the presence of trace levels of Arochlor 1254, confirming the result for Method 508A.

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	0.12	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 13:13

Analysis Certified By:_

Rhonda C Morris



5-3541 Kuhio Highway, Suite 221

Princeville, Hawaii 96722

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project#

M13-13545

Received:

3/22/2013

Reported:

3/28/2013

Date/Time Sampled:

03/20/2013 08:20

Sampled By:

Unknown

Sampled Matrix:

Water

2

Containers: Collection Method:

--Grab

Project Name:

Attn: Michael Loo

Princeville Utilities Company Inc.

Sample ID:

Well #2 Pre Chlorination

Lab Sample #

M13-13545-04

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
				MOTIO	HICHIOG		Dare.	Daterinie
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 13:49

Analysis Certified By:

Rhonda C Morris



Princeville Utilities Company Inc.

5-3541 Kuhio Highway, Suite 221

Princeville, Hawaii 96722

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project #

M13-13545

Received:

3/22/2013

Reported:

3/28/2013

Date/Time Sampled:

Collection Method:

03/20/2013 08:30

Sampled By:

Unknown

Sampled Matrix:

Containers:

Water

2 Grab

Sample ID:

Project Name:

Attn: Michael Loo

Well #2 Post Chlorination

Princeville Utilities Company Inc.

Lab Sample #

M13-13545-05

**								
Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 14:25

Analysis Certified By:

Rhonda C Morris



CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project #

M13-13545

Received:

3/22/2013

Reported:

3/28/2013

Date/Time Sampled:

03/20/2013 10:30

Sampled By:

Unknown

Sampled Matrix:

Water

Containers:

2

Collection Method:

Grab

Project Name: Sample ID:

Attn: Michael Loo

Princeville Utilities Company Inc.

Well #1 Pre Chlorination

Lab Sample # M13-13545-06

Princeville Utilities Company Inc.

5-3541 Kuhio Highway, Suite 221

Princeville, Hawaii 96722

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	03/22/2013	03/23/2013 14:25

Analysis Certified By:

Rhonda C Morris



Princeville Utilities Company Inc.

5-3541 Kuhio Highway, Suite 221

CERTIFICATE OF ANALYSIS

Reported by Alloway - Marion

Chain of Custody attached

Lab Project #

M13-13545

Received:

3/22/2013

Reported:

3/28/2013

Date Sampled:

03/14/2013 Unknown

Sampled By: Sampled Matrix:

Containers:

Collection Method:

Project Name:

Attn: Michael Loo

Princeville, Hawaii 96722

Princeville Utilities Company Inc.

Sample ID:

Shipping Cost

Lab Sample #

M13-13545-07

Analyte

Results

Units

PQL

Preparation Method

Analytical Method

Analyst

Extraction Date

Analysis Date/Time

Analysis Certified By:

Rhonda C Morris



Chain of Custody Record

This is a legal document that authorizes Alloway to perform testing on samples submitted under this agreement.



O 1101 North Cole Street, Lima, OH 45805

(P) 419-223-1362 (F) 419-227-3792

1776 Marion-Waldo Road, Marion OH 43302
(P) 740-389-5991 (F) 740-389-1481

508 Bissman Court, Mansfield, OH 44903
(P) 419-525-1644 (F) 419-524-5575

Rep	ort To;			Invoice To (I	f Different\									u14-55; ţ	
	pany: Prin	hael Loo nceville Utilities Company, Inc. 541 Kuhio Highway, Suite 221 ceville, Hawaii 96722		Name: Company: Address:							t: M13-1:	3545		集 翻12	
	Phone #:	808-826-6100, Ext. 20		Fax #:	808-827-80	019									
	E-mail:	mloo@princeville.com		Fax#;	PO#:				-			1010 10			
Pr	oject Name	Princeville Utilities	Comp	anv. In									sh Charges May	Apply)	
	Sampler	(Print)					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		2 Work	Next Da		Working Da			Routine
	s	Customer ample ID / Sample Location	Sample Date	(Signature) Sample	Composite	Grab	Matrix Code	Number of	Preservation	ing Day		Working Da	<u> </u>	·	Alloway LIMS #
1		Regis Pool Deck	3-20-13	9:25				Containers	Code#			nalysis Req			For Lab Use Only
2	 	kai Tennis Shop	 	1000								CB 50			0/
3			3-20-13	17				<u> </u>			P ₁	CB 50)8A		02
			3-20-13	1000		-/					P	CB 50)8A		03
4		#2 Pre Chlorination				•/					P	CB 50)8A		ál
5		#2 Post Chlorination				~					P	CB 50)8A		76
6	Well #	#1 Pre Chlorination	3-20-13	1040		1 marine						CB 50			
7				V / -		· · · · · · · · · · · · · · · · · · ·				········			, O, T		100
8															
	Relinqui	shed by:	Received	by://		***************************************	Date	Time	Method of De	livery	Matrix Codes:	1 .	Preservation C		
1	K	notes !	不。	$\langle L \rangle$			3/20/17	10:50	UPS 🗖		ww - wastewater gw - groundwater	1 - None	7 - Sodium	13 - Zinc Acetate	Sample Receiving (For Lab Use Only)
2	Bo. :	To No.	- Service				3/2/13		7		dw - drinking water	2 - HNO ₃	Thiosulfate B - Ascorbic Acid	14 - Sodium	
3	- BM						76/13	12:00gra	Fed Ex		sw - surface water	,,	a - Ascoluic Acid	Sulfite 15 - Potassium	lce Present? √(21) N ロ
	· · · · · · · · · · · · · · · · · · ·								Client 🗖		w - water oil - oil	3 - H ₂ SO ₄	9 - Maleic Acid	Dihydrogen Citrate	\ \P\''-
4									Alloway Pick Up (_	s - solid sg - sludge	4 - HCI	10 - EDA	16 - Sodium Sulfite/Sodium Bisulfate	Proper Preservation?
5									Alloway Sampling	_	I - leachale a - acid	5 - NaOH	11 - Ammonium Chloride		YO NO
6						~			Other 🗖		p - product o - other	6 - NaOH & Zinc Acetate	12 ~ (NH ₄) ₂ SO ₄ & NH ₄ OH		
	eived for nature)	Laboratory By: (circle one):	: Mansfi	eld Lir	ma Mai	ion	32213	1000					• •		Container Temperature:
		Transported to: Lima Marion	Ву: ַ			<u> </u>	Re	ceived By:				Date	:	Time:	
		Transported to: Lima Marion	Ву:			····	Re	ceived By:				Date	:	Time:	

ALLOWAY

CONTAINER ORDER REQUEST FORM

(Company Name:	Frenc	eville Utilities Co	Inc.
(Contact Name:	Mucha	20 A00	
S	Shipping Address:	5 - 354	1 Kuhio Huy	_
	منين. منابع	Suite	221	
		Prince	Ville, HI 96722	
p	Phone Number:		Fax Number:	**************************************
. ()	Date Ordered:		Date Needed:	····
			ysis/Containers	
	1000	seta)508 A	
, V /	X	Double	bubble bag	
_				
0	\mathcal{M}			
\				
		Samp	le Information	
Nı	umber of Sample Sites:			
Dr	rinking Water	Ch	lorinated Unchlorinated	
Gr	round Water		SVC GNDCOM ACT WT 14	L CURR USD 1 OF 1
W	aste Water		TRACKING# 1Z3XZ6Y30343845504 REF 1: REF 2:	
EP	PA Reporting (Circle): Yes	No	HANDLING CHARGE 0.00 SINGLE-PIECE PUB RATE CHRGS:	SYC 70.89 USD
Cu	stomer to Pick Up (Circle):	Yes No	DV 0.00 COD 0.00 DC 0.00 DGD 0.00	RS 0.00 SD 0.00
All	loway to Ship (Circle):	Yes No	AH 0.00 PR 0.00 TOT PUB CHG 70.89 PUB+H	SP 0.00 HANDLING 70.63
Da	te Order Completed:			

My.

Project # M(3 - \ 3545)

43

Form 6003-1

		<u> </u>	5	08 A			51	5.1			52	5.2		53	31.2	Ĺ	54	8.1	-	54	9.2	1	55	2.2	
ı			Bottle A		Bottle B		Rottle A	,	Bottle B		Bottle A		Bottle B		Bottle A		Bottle A	. :	Bottle B	tt i	A anno		Portie A	a e i i	
	Sample ID	CL-1	표	2	표	CL-T	퓹	CL-T	Æ	CL-T	£	C.t	풆	C1	ä	CL-T	ŧ	CL-1	Ħ	CL-T	표	CL-F	¥	GF	ā.
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2	VV.	12	γ	:2	7																·				
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	Bottle A				¥ 20100	3		0 4 3	9000	Bottle A	Bottle A
	Sample ID	CL-F	Ħd	CL-F	Æ	CL-T	₽d	CL-T	Ħ	CL-F	ċ.T.5
1								·			
2											
- 3											
4											
5											
6								M			
7											
8								·			
9											
10											

Expected pH ranges								
508	Neutral							
515	Neutral							
525.2	<2							
531.2	3 to 4							
548.1	Neutral **							
549.2	≤2							
552.2	Neutral .							
218.7	>8							
300.1	Neutral							
522	<4							

^{**}Can be acidified to <2
if biological activity is present



<u>TestAmerica</u>

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Honolulu 99-193 Aiea Heights Drive, Suite 121 Aiea, HI 96701

Tel: 808-486-5227

TestAmerica Job ID: HWC0112

Client Project/Site: Princeville Water System Tank

Client Project Description: Sampling of Opportunity (SOO)

For:

Department of Health, HEER Office 919 Ala Moana Boulevard, Room 206 Honolulu, HI 96814

Attn: Laura Young

Krists Reiller

Authorized for release by: 4/10/2013 9:40:44 AM

Kristie Reilly Project Manager

Kristie.Brachmann@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

7.10

5

7

8

1192

113

14

Table of Contents

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QC Sample Results	14
QC Association	18
Chronicle	19
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Method Summary	22
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Definitions/Glossary

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits
F	MS or MSD exceeds the control limits

4

Glossary

Glossary	
Abbreviation	These commonly used abbreviations may or may not be present in this report.
п	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Job ID: HWC0112

Laboratory: TestAmerica Honolulu

Narrative

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory unless otherwise stated in the report. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. TestAmerica Analytical Testing Corporation certifies that the analytical results contained herein apply only to the specific sample(s) analyzed.

The Chain(s) of Custody are included and are an integral part of this report. This entire report was reviewed and approved for release.

If you have any questions relating to this analytical report, please contact your Laboratory Project Manager at 1-(808)486-5227

LABORATORY REPORT

At sample receipt, the cooler/sample was 22 degrees C.

NELAC states that samples which require thermal preservation shall be considered acceptable if the arrival temperature is within 2 degrees C of the required temperature or the method specified range. For samples with a temperature requirement of 4 degrees C, an arrival temperature from 0 degrees C to 6 degrees C meets specifications. Samples that are delivered to the laboratory on the same day that they are collected may not meet these criteria. In these cases, the samples are considered acceptable if there is evidence that the chilling process has begun, such as arrival on ice.

The reported results were obtained in compliance with the 2003 NELAC standards unless otherwise noted.

Samples were prepared in accordance with the State of Hawai'i Department of Health Office of Hazard Evaluation and Emergency Response's Technical Guidance Manual for the Implementation of the Hawai'i State Contingency Plan 2009 edition Laboratory Preparation of Multi-Increment Samples.

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-41898-1

Comments

No additional comments.

Receipt

The samples were received on 3/26/2013 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.3° C.

GC Semi VOA

Method(s) 8081A: The continuing calibration verification (CCV) associated with Pesticide batch 95507 recovered outside acceptance criteria, biased low, for B-BHC. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method(s) 8082: The following sample(s) required a dilution due to the nature of the sample matrix: HWC0112-02 (440-41898-2), HWC0112-03 (440-41898-3), HWC0112-04 (440-41898-4). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8082: Due to the high concentration of Aroclor 1254 in the source sample which co-eluted with Aroclor 1260 spike, the matrix spike / matrix spike duplicate (MS/MSD) calculation does not provide useful accuracy and precision information for PCB prep batch 95408. The associated laboratory control sample (LCS) met acceptance criteria.

Case Narrative

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Job ID: HWC0112 (Continued)

Laboratory: TestAmerica Irvine (Continued)

Method(s) 8082: The following sample(s) contained more than one Aroclor component: HWC0112-02 (440-41898-2), HWC0112-03 (440-41898-3), HWC0112-04 (440-41898-4), HWC0112-05 (440-41898-5). Results are estimated due to co-eluted peaks (Aroclor 1254 and Aroclor 1260).

No other analytical or quality issues were noted.

Organic Prep

No analytical or quality issues were noted.

Sample Summary

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
HWC0112-01	PWST-DU-1	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-02	PWST-DU-2	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-03	PWST-DU-3	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-04	PWST-DU-4	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-05	PWST-DU-5	Solid/Soil	03/20/13 13:00	03/22/13 13:00
HWC0112-06	PWST-DU-6	Solid/Soil	03/20/13 13:00	03/22/13 13:00



5



01

(3)

(10)

1/2

1133

11/3

Detection Summary

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-1						La	b s	Sample ID	: HWC0112-01
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1260	0.027	·	0.025		mg/Kg	1	_	8082	Total/NA
Client Sample ID: PWST-DU-2						La	b s	Sample ID	: HWC0112-02
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arodor 1254	6.0		2.5		mg/Kg	100	_	8082	Total/NA
Aroclor 1260	12		2.5		mg/Kg	100		8082	Total/NA
Client Sample ID: PWST-DU-3						La	b s	Sample ID	: HWC0112-03
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1254	0.73) 	0.25	*	mg/Kg	10	-	8082	Total/NA
Aroclor 1260	1.2		0.25		mg/Kg	10		8082	Total/NA
Client Sample ID: PWST-DU-4						La	b s	Sample ID	: HWC0112-04
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor 1254	1.6		0.49		mg/Kg	20	_	8082	Total/NA
Aroclor 1260	1,4		0.49		mg/Kg	20		8082	Total/NA
Client Sample ID: PWST-DU-5						La	b	Sample ID	: HWC0112-05

RL

0.025

0.025

0.025

Result Qualifier

0.10

0.031

0.029

MDL Unit

mg/Kg

mg/Kg

mg/Kg

Dil Fac D Method

1

8081A

8082

8082

Lab Sample ID: HWC0112-06

No Detections.

Analyte

Aroclor 1254

Aroclor 1260

Chlordane (technical)

Client Sample ID: PWST-DU-6

This Detection Summary does not include radiochemical test results.

Prep Type

Total/NA

Total/NA

Total/NA

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Lab Sample ID: HWC0112-01

Matrix: Solid/Soil

Client Sample ID: PWST-DU-1

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
4,4'-DDE	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
4,4'-DDT	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Aldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
alpha-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
beta-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Chlordane (technical)	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
delta-BHC	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Dieldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endosulfan I	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endosulfan II	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endosulfan sulfate	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endrin aldehyde	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Endrin ketone	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
gamma-BHC (Lindane)	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Heptachlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Heptachlor epoxide	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Methoxychlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Toxaphene	ND		0.099		mg/Kg		04/01/13 13:15	04/02/13 13:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	54		35 - 115				04/01/13 13:15	04/02/13 13:01	1
DCB Decachlorobiphenyl (Surr)	61		45 - 120				04/01/13 13:15	04/02/13 13:01	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1221	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1232	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1242	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1248	ND		0,025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1254	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Aroclor 1260	0.027		0.025		mg/Kg		04/01/13 13:15	04/02/13 07:34	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	69		45 - 120				04/01/13 13:15	04/02/13 07:34	1

Client Sample ID: PWST-DU-2 Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Aroclor 1254

Lab Sample ID: HWC0112-02

04/01/13 13:15

Matrix: Solid/Soil

Method: 8082 - Polychlori Analyte	AND THE SECOND STATE OF SECOND	Qualifier	romatograph RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Aroclor 1221	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Aroclor 1232	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Aroclor 1242	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100
Aroclor 1248	ND		2.5		mg/Kg		04/01/13 13:15	04/02/13 08:04	100

2.5

6.0

mg/Kg

TestAmerica Honolulu

100

04/02/13 08:04

4/10/2013

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Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-2

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-02

Matrix: Solid/Soil

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued) Analyte

289 X

Result Qualifier Prepared Analyzed Dil Fac 2.5 mg/Kg 04/01/13 13:15 04/02/13 08:04 Aroclor 1260 12 Surrogate %Recovery Qualifier Limits

45 - 120

Prepared Analyzed Dil Fac 04/01/13 13:15 04/02/13 08:04 100

Client Sample ID: PWST-DU-3

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

DCB Decachlorobiphenyl (Surr)

Lab Sample ID: HWC0112-03

Matrix: Solid/Soil

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND	-	0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1221	ND		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1232	ND		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1242	ND		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1248	ND		0,25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1254	0.73		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Aroclor 1260	1.2		0.25		mg/Kg		04/01/13 13:15	04/02/13 08:19	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	89		45 - 120				04/01/13 13:15	04/02/13 08:19	10

Lab Sample ID: HWC0112-04

Matrix: Solid/Soil

Client Sample ID: PWST-DU-4

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND	-	0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1221	ND		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1232	ND		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1242	ND		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1248	ND		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1254	1.6		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Aroclor 1260	1.4		0.49		mg/Kg		04/01/13 13:15	04/02/13 08:34	20
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	74	-	45 - 120				04/01/13 13:15	04/02/13 08:34	20

Client Sample ID: PWST-DU-5

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00 Lab Sample ID: HWC0112-05

Matrix: Solid/Soil

Method: 8081A - Organoc	chlorine Pesticides (G	C)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
4,4'-DDE	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
4,4'-DDT	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Aldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
alpha-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
beta-BHC	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1

TestAmerica Honolulu

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

04/02/13 13:16

04/01/13 13:15

04/01/13 13:15

Lab Sample ID: HWC0112-05 Matrix: Solid/Soil

Client Sample ID: PWST-DU-5

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

DCB Decachlorobiphenyl (Surr)

Endosulfan sulfate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlordane (technical)	0.10	-	0.025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
delta-BHC	ND		0.0049		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Dieldrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endosulfan I	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endosulfan II	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endosulfan sulfate	ND		0.0049		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endrin aldehyde	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Endrin ketone	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
gamma-BHC (Lindane)	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Heptachlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Heptachlor epoxide	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Methoxychlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Toxaphene	ND		0.099		mg/Kg		04/01/13 13:15	04/02/13 13:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	43		35 - 115				04/01/13 13:15	04/02/13 13:16	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1221	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1232	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1242	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1248	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1254	0.031		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Aroclor 1260	0.029		0.025		mg/Kg		04/01/13 13:15	04/02/13 08:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	67		45 - 120				04/01/13 13:15	04/02/13 08:49	1

45 - 120

Client Sample ID: PWST-DU-6 Lab Sample ID: HWC0112-06 Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

ND

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Method: 8081A - Organochlorine Pesticides (C	GC)					
Analyte Resul	t Qualifier RL	. MDL	Unit D	Prepared	Analyzed	Dil Fac
4,4'-DDD NI	0.0025		mg/Kg	04/01/13 13:15	04/02/13 13:31	1
4,4'-DDE NI	0,0025	ii.	mg/Kg	04/01/13 13:15	04/02/13 13:31	1
4,4'-DDT NI	0.0025	į.	mg/Kg	04/01/13 13:15	04/02/13 13:31	1
Aldrin	0.0025		mg/Kg	04/01/13 13:15	04/02/13 13:31	1
alpha-BHC Ni	0.0025	i	mg/Kg	04/01/13 13:15	04/02/13 13:31	1
beta-BHC NI	0.0025	i	mg/Kg	04/01/13 13:15	04/02/13 13:31	1
Chlordane (technical)	0,025	i	mg/Kg	04/01/13 13:15	04/02/13 13:31	1
delta-BHC NI	0.0049)	mg/Kg	04/01/13 13:15	04/02/13 13:31	1
Dieldrin	0,0025	i	mg/Kg	04/01/13 13:15	04/02/13 13:31	1
Endosulfan I Ni	0.0025	i	mg/Kg	04/01/13 13:15	04/02/13 13:31	1
Endosulfan II Ni	0,0025	i	mg/Kg	04/01/13 13:15	04/02/13 13:31	1

TestAmerica Honolulu

04/02/13 13:31

4/10/2013

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0.0049

mg/Kg



Matrix: Solid/Soil

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-6

Lab Sample ID: HWC0112-06

Matrix: Solid/Soil

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Endrin aldehyde	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Endrin ketone	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
gamma-BHC (Lindane)	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Heptachlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Heptachlor epoxide	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Methoxychlor	ND		0.0025		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Toxaphene	ND		0.099		mg/Kg		04/01/13 13:15	04/02/13 13:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
Tetrachloro-m-xylene	35		35 - 115				04/01/13 13:15	04/02/13 13:31	1
DCB Decachlorobiphenyl (Surr)	52		45 - 120				04/01/13 13:15	04/02/13 13:31	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.025		mg/Kg	- 37 - 37	04/01/13 13:15	04/02/13 09:04	1
Aroclor 1221	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1232	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1242	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1248	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Arodor 1254	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Aroclor 1260	ND		0.025		mg/Kg		04/01/13 13:15	04/02/13 09:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	62		45 - 120				04/01/13 13:15	04/02/13 09:04	1



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TestAmerica Job ID: HWC0112

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid

Prep Type: Total/NA

				Percent Surrogate Recovery (Acceptance Limits)
		TCX2	DCB2	
Lab Sample ID	Client Sample ID	(35-115)	(45-120)	
440-42135-A-11-A MS	Matrix Spike	47	57	
440-42135-A-11-B MSD	Matrix Spike Duplicate	59	71	
LCS 440-95408/2-A	Lab Control Sample	72	88	
MB 440-95408/1-A	Method Blank	63	86	
Surrogate Legend				
TCX = Tetrachloro-m-xyl	ene			
DCB = DCB Decachlorob	piphenyl (Surr)			

Method: 8081A - Organochlorine Pesticides (GC)

Matrix: Solid/Soil Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
		TCX2	DCB2							
Lab Sample ID	Client Sample ID	(35-115)	(45-120)							
HWC0112-01	PWST-DU-1	54	61							
HWC0112-05	PWST-DU-5	43	58							
HWC0112-06	PWST-DU-6	35	52							

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCB = DCB Decachlorobiphenyl (Surr)

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid Prep Type: Total/NA

			Percent Surrogate Recovery (Acceptance Limits)
		DCB1	
Lab Sample ID	Client Sample ID	(45-120)	
440-42170-A-6-A MS	Matrix Spike	97	
440-42170-A-6-B MSD	Matrix Spike Duplicate	98	
LCS 440-95408/5-A	Lab Control Sample	102	
MB 440-95408/1-A	Method Blank	94	
Surrogate Legend			

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid/Soil Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)									
		DCB1									
Lab Sample ID	Client Sample ID	(45-120)									
HWC0112-01	PWST-DU-1	69									
HWC0112-02	PWST-DU-2	289 X									
HWC0112-03	PWST-DU-3	89									
HWC0112-04	PWST-DU-4	74									
HWC0112-05	PWST-DU-5	67									
HWC0112-06	PWST-DU-6	62									

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Surrogate Summary

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Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank

DCB = DCB Decachlorobiphenyl (Surr)

TestAmerica Job ID: HWC0112

2

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14.54

KI,

QC Sample Results

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank

Lab Sample ID: MB 440-95408/1-A

Matrix: Solid

TestAmerica Job ID: HWC0112

Method: 8081A - Organochlorine Pesticides (GC)

Client	Sample	ID:	Meth	od	Blank	
	-	-	-	-	LIZALA	

Prep Type: Total/NA

Analysis Batch: 95507								Prep Batcl	n: 95408
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,4'-DDD	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
4,4'-DDE	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
4,4'-DDT	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Aldrin	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
alpha-BHC	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
beta-BHC	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Chlordane (technical)	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
delta-BHC	ND		0.010		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Dieldrin	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endosulfan I	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endosulfan II	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endosulfan sulfate	ND		0.010		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endrin	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endrin aldehyde	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Endrin ketone	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
gamma-BHC (Lindane)	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Heptachlor	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Heptachlor epoxide	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Methoxychlor	ND		0.0050		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
Toxaphene	ND		0.20		mg/Kg		04/01/13 13:15	04/02/13 09:34	1
	MB	MB							

Limits

35 - 115

45 - 120

%Recovery Qualifier

63

86

Lab Sample ID: LCS 440-95408/2-A

Matrix: Solid

Tetrachloro-m-xylene

DCB Decachlorobiphenyl (Surr)

Surrogate

Client Sample	ID:	Lab	Control	Sample
		Pror	Type	Total/NA

Analyzed

04/02/13 09:34

04/02/13 09:34

Prepared

04/01/13 13:15

04/01/13 13:15

Prep Type: Total/NA

Dil Fac

Analysis Batch: 95507							Prep B	atch: 95408
	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
4,4'-DDD	0.0333	0,0281		mg/Kg		84	60 - 120	
4,4'-DDE	0.0333	0.0295		mg/Kg		88	60 - 120	
4,4'-DDT	0.0333	0.0319		mg/Kg		96	65 - 120	
Aldrin	0.0333	0.0265		mg/Kg		79	50 - 115	
alpha-BHC	0.0333	0.0277		mg/Kg		83	60 - 115	
beta-BHC	0.0333	0.0243		mg/Kg		73	60 - 115	
delta-BHC	0.0333	0.0264		mg/Kg		79	60 - 115	
Dieldrin	0.0333	0.0293		mg/Kg		88	65 _ 115	
Endosulfan I	0.0333	0.0284		mg/Kg		85	40 - 120	
Endosulfan II	0.0333	0.0280		mg/Kg		84	55 - 120	
Endosulfan sulfate	0.0333	0.0304		mg/Kg		91	65 - 115	
Endrin	0.0333	0.0296		mg/Kg		89	55 - 120	
Endrin aldehyde	0.0333	0.0277		mg/Kg		83	55 - 115	
Endrin ketone	0.0333	0.0285		mg/Kg		86	65 - 115	
gamma-BHC (Lindane)	0.0333	0.0273		mg/Kg		82	55 _ 115	
Heptachlor	0.0333	0,0275		mg/Kg		83	55 - 115	
Heptachlor epoxide	0.0333	0.0281		mg/Kg		84	55 - 115	
Methoxychlor	0.0333	0.0300		mg/Kg		90	65 - 120	

TestAmerica Honolulu

QC Sample Results

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample ID: LCS 440-95408/2-A

Lab Sample ID: 440-42135-A-11-A MS

Matrix: Solid

Matrix: Solid

Analysis Batch: 95507

Analysis Batch: 95507

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 95408

LCS LCS

Sample Sample

Surrogate %Recovery Qualifier Limits Tetrachloro-m-xylene 72 35 - 115 45 - 120 DCB Decachlorobiphenyl (Surr) 88

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 95408

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s				
30	-		_	

Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits 4,4'-DDD ND 0.0333 0.0167 42 40 - 13 mg/Kg 4,4'-DDE ND 0.0333 0.0177 mg/Kg 53 35 - 130 4,4'-DDT ND 0.0333 0.0205 35 - 130 mg/Kg 56 Aldrin ND 0.0333 0.0174 40 - 115 mg/Kg 52 alpha-BHC ND 0.0333 0.0174 40 - 115 mg/Kg 52

Spike

MS MS

beta-BHC ND 0.0333 0.0156 mg/Kg 47 40 - 120 delta-BHC ND 0.0333 0.0173 mg/Kg 52 45 - 120 Dieldrin 40 - 125 ND 0.0333 0.0184 mg/Kg 55 Endosulfan I 40 - 120 ND 0.0333 0.0173 mg/Kg 52 Endosulfan II ND 0.0333 0.0167 50 40 - 125 mg/Kg

Endosulfan sulfate ND 0.0333 0.0176 53 45 - 120 mg/Kg Endrin ND 0.0333 0.0183 55 45 - 125 mg/Kg Endrin aldehyde ND 0.0333 0.0142 mg/Kg 43 30 - 120 Endrin ketone mg/Kg ND 0.0333 0.0168 50 40 - 120 gamma-BHC (Lindane) ND 0.0333 0.0175 40 - 120 mg/Kg 52 Heptachlor 40 - 115 ND 0.0333 0.0181 mg/Kg 54 Heptachlor epoxide ND 0.0333 0.0171 mg/Kg 51 45 - 115

Methoxychlor ND 0,0333 0,0206 mg/Kg MS MS Surrogate %Recovery Qualifier Limits

Tetrachloro-m-xylene 47 35 - 115 DCB Decachlorobiphenyl (Surr) 57 45 - 120

Lab Sample ID: 440-42135-A-11-B MSD

Matrix: Solid

Analysis Ratch: 95507

Client Sample ID: Matrix Spike Duplicate

40 - 135

62

Prep Type: Total/NA

Prep Batch: 95408

ı	Analysis batch: 95507									Prep	Batch:	95400
		Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
	Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
	4,4'-DDD	ND		0,0333	0,0189		mg/Kg		57	40 - 130	13	30
	4,4'-DDE	ND		0.0333	0.0215		mg/Kg		65	35 - 130	20	30
	4,4'-DDT	ND		0.0333	0.0260		mg/Kg		72	35 - 130	23	30
	Aldrin	ND		0.0333	0.0209		mg/Kg		63	40 - 115	18	30
	alpha-BHC	ND		0.0333	0.0203		mg/Kg		61	40 - 115	15	30
	beta-BHC	ND		0.0333	0.0177		mg/Kg		53	40 - 120	12	30
	delta-BHC	ND		0.0333	0.0197		mg/Kg		59	45 - 120	13	30
	Dieldrin	ND		0.0333	0.0227		mg/Kg		68	40 - 125	21	30
	Endosulfan I	ND		0.0333	0.0207		mg/Kg		62	40 - 120	18	30
	Endosulfan II	ND		0.0333	0.0186		mg/Kg		56	40 - 125	10	30
	Endosulfan sulfate	ND		0.0333	0.0213		mg/Kg		64	45 - 120	15	30
	Endrin	ND		0.0333	0.0220		mg/Kg		66	45 - 125	19	30

TestAmerica Honolulu

Page 15 of 24

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank

Method: 8081A - Organochlorine Pesticides (GC) (Continued)

Lab Sample	ID: 440-42135-A-11-B	MSD

Matrix: Solid

Analysis Batch: 95507

Client Sample	ID: Matrix Spike Duplicate
	Prep Type: Total/NA

Prep Batch: 95408

				MSD				%Rec.		RPD
Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
ND	-	0.0333	0.0154		mg/Kg		46	30 - 120	8	30
ND		0.0333	0.0203		mg/Kg		61	40 - 120	19	30
ND		0.0333	0.0209		mg/Kg		63	40 - 120	18	30
ND		0.0333	0.0217		mg/Kg		65	40 - 115	18	30
ND		0.0333	0.0206		mg/Kg		62	45 - 115	17	30
ND		0.0333	0.0239		mg/Kg		72	40 - 135	15	30
	ND ND ND ND	ND ND ND ND	ND 0.0333 ND 0.0333 ND 0.0333 ND 0.0333 ND 0.0333	ND 0.0333 0.0154 ND 0.0333 0.0203 ND 0.0333 0.0209 ND 0.0333 0.0217 ND 0.0333 0.0206	ND 0.0333 0.0154 ND 0.0333 0.0203 ND 0.0333 0.0209 ND 0.0333 0.0217 ND 0.0333 0.0206	ND 0.0333 0.0154 mg/Kg ND 0.0333 0.0203 mg/Kg ND 0.0333 0.0209 mg/Kg ND 0.0333 0.0217 mg/Kg ND 0.0333 0.0206 mg/Kg	ND 0.0333 0.0154 mg/Kg ND 0.0333 0.0203 mg/Kg ND 0.0333 0.0209 mg/Kg ND 0.0333 0.0217 mg/Kg ND 0.0333 0.0206 mg/Kg	ND 0.0333 0.0154 mg/Kg 46 ND 0.0333 0.0203 mg/Kg 61 ND 0.0333 0.0209 mg/Kg 63 ND 0.0333 0.0217 mg/Kg 65 ND 0.0333 0.0206 mg/Kg 62	ND 0.0333 0.0154 mg/Kg 46 30 - 120 ND 0.0333 0.0203 mg/Kg 61 40 - 120 ND 0.0333 0.0209 mg/Kg 63 40 - 120 ND 0.0333 0.0217 mg/Kg 65 40 - 115 ND 0.0333 0.0206 mg/Kg 62 45 - 115	ND 0.0333 0.0154 mg/Kg 46 30 - 120 8 ND 0.0333 0.0203 mg/Kg 61 40 - 120 19 ND 0.0333 0.0209 mg/Kg 63 40 - 120 18 ND 0.0333 0.0217 mg/Kg 65 40 - 115 18 ND 0.0333 0.0206 mg/Kg 62 45 - 115 17

MSD MSD

Limits Surrogate %Recovery Qualifier 35 - 115 Tetrachloro-m-xylene 59 DCB Decachlorobiphenyl (Surr) 71 45 - 120

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 440-95408/1-A

Matrix: Solid

Analysis Batch: 95349

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 95408

	WB	WR							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1221	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1232	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1242	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1248	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1254	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Aroclor 1260	ND		0.050		mg/Kg		04/01/13 13:15	04/02/13 03:43	1
Harman Andrews Took Panca II									

MB MB

Limits Prepared Analyzed %Recovery Qualifier Surrogate 04/01/13 13:15 04/02/13 03:43 45 - 120 DCB Decachlorobiphenyl (Surr) 94

Lab Sample ID: LCS 440-95408/5-A

Matrix: Solid

Analysis Batch: 95349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Dil Fac

Prep Batch: 95408

ı		Spike	LCS	LCS				%Rec.	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
	Aroclor 1016	0.267	0.241		mg/Kg		90	65 - 115	
	Aroclor 1260	0.267	0.279		mg/Kg		105	65 - 115	

LCS LCS

%Recovery Qualifier Limits Surrogate 45 - 120 DCB Decachlorobiphenyl (Surr) 102

Lab Sample ID: 440-42170-A-6-A MS

Matrix: Solid

Analysis Batch: 95349

Client Sample ID: Matrix Spike Prep Type: Total/NA

Prep Batch: 95408

7 maryone Datom cools	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Aroclor 1016	ND		0.266	0.263	5 2	mg/Kg		99	50 - 120	
Aroclor 1260	ND		0.266	1.18	F	mg/Kg		442	50 - 125	

TestAmerica Honolulu

QC Sample Results

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 440-42170-A-6-A MS

Lab Sample ID: 440-42170-A-6-B MSD

Matrix: Solid

Matrix: Solid

Analysis Batch: 95349

DCB Decachlorobiphenyl (Surr)

Analysis Batch: 95349

Client	Sample	ID:	Matrix	Spike	

Prep Type: Total/NA

Prep Batch: 95408

MS MS Surrogate

%Recovery Qualifier Limits 97 45 - 120

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 95408

	0	Campula	Cutter	HCD	HCD				%Rec.		RPD
	Sample	Sample	Spike	MSD	MSD				%Rec.		KPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor 1016	ND		0.266	0.250	30	mg/Kg	- 1 11	94	50 - 120	5	30
Aroclor 1260	ND		0.266	1.25	F	mg/Kg		471	50 - 125	7	30

MSD MSD Surrogate %Recovery Qualifier Limits DCB Decachlorobiphenyl (Surr) 45 - 120 98

QC Association Summary

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

2

GC Semi VOA

Analysis Batch: 95349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-42170-A-6-A MS	Matrix Spike	Total/NA	Solid	8082	95408
440-42170-A-6-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8082	95408
HWC0112-01	PWST-DU-1	Total/NA	Solid/Soil	8082	95408
HWC0112-02	PWST-DU-2	Total/NA	Solid/Soil	8082	95408
HWC0112-03	PWST-DU-3	Total/NA	Solid/Soil	8082	95408
HWC0112-04	PWST-DU-4	Total/NA	Solid/Soil	8082	95408
HWC0112-05	PWST-DU-5	Total/NA	Solid/Soil	8082	95408
HWC0112-06	PWST-DU-6	Total/NA	Solid/Soil	8082	95408
LCS 440-95408/5-A	Lab Control Sample	Total/NA	Solid	8082	95408
MB 440-95408/1-A	Method Blank	Total/NA	Solid	8082	95408

Prep Batch: 95408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-42135-A-11-A MS	Matrix Spike	Total/NA	Solid	3546	
440-42135-A-11-B MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	
440-42170-A-6-A MS	Matrix Spike	Total/NA	Solid	3546	
440-42170-A-6-B MSD	Matrix Spike Duplicate	Total/NA	Solid	3546	
HWC0112-01	PWST-DU-1	Total/NA	Solid/Soil	3546	
HWC0112-02	PWST-DU-2	Total/NA	Solid/Soil	3546	
HWC0112-03	PWST-DU-3	Total/NA	Solid/Soil	3546	
HWC0112-04	PWST-DU-4	Total/NA	Solid/Soil	3546	
HWC0112-05	PWST-DU-5	Total/NA	Solid/Soil	3546	
HWC0112-06	PWST-DU-6	Total/NA	Solid/Soil	3546	
LCS 440-95408/2-A	Lab Control Sample	Total/NA	Solid	3546	
LCS 440-95408/5-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-95408/1-A	Method Blank	Total/NA	Solid	3546	
MB 440-95408/1-A	100 O T T T T T T T T T T T T T T T T T T	1000 - 1000 NO.			

Analysis Batch: 95507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-42135-A-11-A MS	Matrix Spike	Total/NA	Solid	8081A	95408
440-42135-A-11-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8081A	95408
HWC0112-01	PWST-DU-1	Total/NA	Solid/Soil	8081A	95408
HWC0112-05	PWST-DU-5	Total/NA	Solid/Soil	8081A	95408
HWC0112-06	PWST-DU-6	Total/NA	Solid/Soil	8081A	95408
LCS 440-95408/2-A	Lab Control Sample	Total/NA	Solid	8081A	95408
MB 440-95408/1-A	Method Blank	Total/NA	Solid	8081A	95408

Lab Chronicle

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-1

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-01

Matrix: Solid/Soil

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		1	95349	04/02/13 07:34	JM	TAL IRV
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8081A		1	95507	04/02/13 13:01	CN	TAL IRV

Lab Sample ID: HWC0112-02

Matrix: Solid/Soil

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		100	95349	04/02/13 08:04	JM	TAL IRV

Client Sample ID: PWST-DU-3

Client Sample ID: PWST-DU-2

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-03

Matrix: Solid/Soil

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		10	95349	04/02/13 08:19	JM	TAL IRV

Client Sample ID: PWST-DU-4

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab	Sample	ID:	HWC01	12-04
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Matrix: Solid/Soil

		Batch	Batch		Dilution	Batch	Prepared			
	Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
	Total/NA	Prep	3546		N S 	95408	04/01/13 13:15	AB	TAL IRV	-
١	Total/NA	Analysis	8082		20	95349	04/02/13 08:34	JM	TAL IRV	

Client Sample ID: PWST-DU-5

Date Collected: 03/20/13 13:00

Date Received: 03/22/13 13:00

Lab Samp	le ID:	HWC0	112-05
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Matrix: Solid/Soil

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546	*		95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		1	95349	04/02/13 08:49	JM	TAL IRV
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8081A		1	95507	04/02/13 13:16	CN	TAL IRV

Lab Chronicle

95507 04/02/13 13:31 CN

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank

Analysis

8081A

TestAmerica Job ID: HWC0112

Client Sample ID: PWST-DU-6

Date Collected: 03/20/13 13:00 Date Received: 03/22/13 13:00

Lab Sample ID: HWC0112-06

TAL IRV

Matrix: Solid/Soil

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3546	12.5		95408	04/01/13 13:15	AB	TAL IRV
Total/NA	Analysis	8082		1	95349	04/02/13 09:04	JM	TAL IRV
Total/NA	Prep	3546			95408	04/01/13 13:15	AB	TAL IRV

Laboratory References:

Total/NA

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



Certification Summary

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Laboratory: TestAmerica Honolulu

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Florida	NELAP	4	E87907	05-30-13
Hawaii	State Program	9	N/A	06-28-13
USDA	Federal		HON-S-206	01-31-15

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-13
Arizona	State Program	9	AZ0671	10-13-13
California	LA Cty Sanitation Districts	9	10256	01-31-14
California	NELAP	9	1108CA	01-31-14
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12,002r	03-28-13 *
Hawaii	State Program	9	N/A	01-31-14
Nevada	State Program	9	CA015312007A	07-31-13
Northern Mariana Islands	State Program	9	MP0002	01-31-14
Oregon	NELAP	10	4005	09-12-13
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

TestAmerica Honolulu

^{*} Expired certification is currently pending renewal and is considered valid.

Method Summary

Client: Department of Health, HEER Office Project/Site: Princeville Water System Tank TestAmerica Job ID: HWC0112

Method	Method Description	Protocol	Laboratory
8081A	Organochlorine Pesticides (GC)	SW846	TAL IRV
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL IRV

4

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022



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13



TestAmerica - Honolulu 99-193 Aiea Heights Drive Suite 121 • Aiea, HI 96701-3900 808-486-LABS (5227) • Fax 808-486-2456

LABORATORY USE ONLY	
LABJOBNO. HWG0112	
LOCATION	
CONTAINERS	

Chain of Custody / Analysis Request Form Containers					
Laura Young	Indicate / / S / /	777			
Company name DOH HBOV	Job name Princeville Waker System Jank	Indicate analyses			
Address 919 Ala Moana Blud = 206	Job number	requested / 3/5/	//		
thonolule History 96814	P.O. number	TO SERVICE OF THE PROPERTY OF	//		
Phone 586-4249 Fax 586-7537	Contact ormail address Gura. Your don.		′ /		
Sampler # samples in shipment	namani.gov STAT				
Client sample ID	GRAB Water Sold Wastewater Sold Wastewater Sold Other Col Other Preservation method Time Time Time Time Time Time Time Time		/		
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3 3			702		
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		1. No	Yec		
Refum to client	processing on all samples	Please check U Dispose by U Return to du Archive	y lab		
COC REV 08/2008 Distribution: White-	- TestAmerica Yellow - TestAmerica Pink -	Client Page C	of		



Rush TAT	Confirmation	(Initial/Date)	-
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	0	Sample R	eceipt Checkli	st		
Client Name: _	1) OH	Da	te/ Time Receive	ed: 3/2	ulis	1300
(8)			Received B	y:	<u> </u>	
Matrices:	Soil	Carrier: Cl	iat	Airbilt#	:	
Chain of Custody Chain of Custody Chain of Custody Samples In prope Sample container Sample container	Signed when relinquagrees with sample or container/bottle? Intact?	ished and received? labels?	Yes Myes Myes Myes Myes Myes Myes Myes My	No III	Not Prese	ent Fi
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Comments/ S	iampling Handllı	ng Notes:				


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# **CALSCIENCE**

**WORK ORDER NUMBER: 13-03-1843** 

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

**Analytical Report For** 

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

**Attention: Michael Loo** 

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Approved for release on 04/1/2013 by: Don Burley

Project Manager



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

ResultLink >

Email your PM >



## **Contents**

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-1843

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4	Glossary of Terms and Qualifiers	6
5	Chain of Custody/Sample Receipt Form	7

# alscience nvironmental aboratories, Inc.

#### **Work Order Narrative**



#### Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 03/27/2013. They were assigned to Work Order 13-03-1843.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

#### **Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT </= 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

#### **Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

#### **Additional Comments:**

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

#### **Subcontract Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Return to Contents

Muhan

NELAP ID: 03220CA DoD-ELAP ID: L10-41

CSDLAC ID: 10109

SCAQMD ID: 93LA0830

FAX: (714) 894-7501



#### **Analytical Report**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 03/27/13 13-03-1843 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
St. Regis Pool Deck		13-03-1843-1-B	03/26/13 08:30	Aqueous	GC 44	03/28/13	03/29/13 12:45	130328L21
Parameter	Result	RL	DF	Qual	Units			
Decachlorobiphenyl	ND ND	0.25	<u> </u>	<u>Quai</u>	ug/L			
Makai Tennis Shop		13-03-1843-2-B	03/26/13 08:45	Aqueous	GC 44	03/28/13	03/29/13 12:59	130328L21
Parameter	Result	RL	DF	Qual	Units			
Decachlorobiphenyl	ND	0.25	1		ug/L			
EPD at Ranch House		13-03-1843-3-B	03/26/13 09:00	Aqueous	GC 44	03/28/13	03/29/13 13:14	130328L21
Parameter	Result	RL	<u>DF</u>	Qual	Units			
Decachlorobiphenyl	ND	0.25	1	<u> </u>	ug/L			
Method Blank		099-14-541-18	N/A	Aqueous	GC 44	03/28/13	03/29/13 13:28	130328L21
Parameter	Result	RL	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			



Qual - Qualifiers





#### **Quality Control - LCS/LCS Duplicate**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-03-1843 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix	I	nstrument		ate pared	Date Analyzed	d L	LCS/LCSD Batch Number	
099-14-541-18	Aqueous		GC 44	03/2	28/13	03/29/13		130328L21	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.6891	99	0.7519	108	80-120	9	0-10	





#### **Glossary of Terms and Qualifiers**

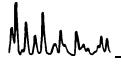


Work Order Number: 13-03-1843

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



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ADDRESS

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7440 LINCOLN WAY

**3-03-184**6

CHAIN OF CUSTODY RECORD Bar Over PCBS (8082) SAMPLER(S): (PRINT 9 PCBS (508A) × × × 3/26/2013 [3.81S to 9917] (IV)10 REQUESTED ANALYSES (XT47/0108) alisteM SST (0728) to (0188) sAN9 **LCBs** (8082) DATE: PAGE: Pesticides (8081) 2AOC2 (8570) Princeville Utilities Company, Inc. En Core / Terra Core Prep (5035) Oxygenates (8260) AOCs (85e0) BTEX / MTBE (8260) or ( PROJECT CONTACT: ) нат Michael Loo TPH(d) or DRO or (C6-C36) or (C6-C44) ORD to (g)H9T Field Filtered LOG CODE Preserved 96722 Nupreserved ZIP: ☐ 10 DAYS NO. OF. Q 0 TEL: (714) 895-5494 . FAX: (714) 894-7501 豆 子の子 MATRIX **GARDEN GROVE, CA 92841-1427** mloo@princeville.com ☐ 5 DAYS 3/26/2013 8:300 3/26/2013 8:45 3/26/2013 9:00cm TIME Princeville Utilities Company, Inc. SAMPLING ☐ 72 HR DATE 5-3541 Kuhio Highway, Suite 221 X 48 HR EPD at Ranch House GLOBAL ID: St, Regis Pool Deck ☐ 24 HR Makai Tennis Shop SAMPLE ID 808-826-6100 SPECIAL INSTRUCTIONS Princeville COELT EDF CI SAME DAY

′age Time: Date: Received by: (Signature/Affiliation) Received by: (Signature/Affiliation) Received by: (Signature/Affiliation) 11:20m

LAB USE ONLY

a



06/01/10 Revision

Relinquished by: (Signature)

Relinquished by: (Signature

Relinquished by: (Signature)

From: (808) 826-6100 Michael Loo Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221 4261 Kekuanaoa Lane Princeville, HI 96722

7440 LINCOLN WAY

Origin ID: LIHA



Ship Date: 26MAR13 ActWgt: 40.0 LB CAD: 7665451/INET3370

Dims: 24 X 13 X 14 IN



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BILL SENDER

SHIP TO: (714) 895-5494 Don Burley Calscience Environmental Lab.

**GARDEN GROVE, CA 92841** 

Invoice # P0# Dept#

Ref#

WED - 27 MAR 10:30A PRIORITY OVERNIGHT

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92841 CA-US

SNA



WZ APVA



After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.

2. Fold the printed page along the horizontal line.

3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Calscience
Environmental
Laboratories, Inc.

WORK ORDER #: **13-03-** □ □ □ □

SAMPLE RECEIPT FORM Cooler o	f <u> </u>
CLIENT: Princeville DATE: 03/27/	13
TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)	
Temperature26_°C - 0.2°C (CF) =24°C □ Blank ☑ Sample	
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).	
☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.	
☐ Received at ambient temperature, placed on ice for transport by Courier.	
Ambient Temperature: ☐ Air ☐ Filter Initial: ∠	2
CUSTODY SEALS INTACT:	
□ Cooler □ □ No (Not Intact) ☑ Not Present □ N/A Initial: 📆	<u>'}_</u>
□ Sample □ □ □ No (Not Intact) ☑ Not Present Initial:	4
SAMPLE CONDITION: Yes No N/	
Chain-Of-Custody (COC) document(s) received with samples	_
COC document(s) received complete.	_
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.	
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.	
Sampler's name indicated on COC	٦
Sample container label(s) consistent with COC	
Sample container(s) intact and good condition	٦ .
Proper containers and sufficient volume for analyses requested	٦
Analyses received within holding time	_
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	<u>-</u>
Proper preservation noted on COC or sample container	- ]
☐ Unpreserved vials received for Volatiles analysis	
Volatile analysis container(s) free of headspace □ □ □ ☑	1
Tedlar bag(s) free of condensation	- 1
CONTAINER TYPE:	_
Solid:     40zCGJ   80zCGJ   160zCGJ   Sleeve ()   EnCores   TerraCores	
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp ☐1AGB □1AGBna₂ □1A	GB <b>s</b>
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □1PBna □500	PB
□250PB □250PB <b>n</b> □125PB □125PB <b>znna</b> □100PJ □100PJ <b>na</b> ₂ □ □ _ □ □	
Air: □Tedlar [®] □Canister Other: □ Trip Blank Lot#: Labeled/Checked by: <u>↓ </u>	<u> </u>
Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by:  Preservative: h: HCL n: HNO ₃ na ₂ :Na ₂ S ₂ O ₃ na: NaOH p: H ₃ PO ₄ s: H ₂ SO ₄ u: Ultra-pure znna: ZnAc ₂ +NaOH f: Filtered Scanned by:	<u> </u>





## **CALSCIENCE**

**WORK ORDER NUMBER: 13-04-0229** 

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

**Analytical Report For** 

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

**Attention:** Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

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Approved for release on 04/8/2013 by: Don Burley Project Manager

nelac

Email your PM >

ResultLink >

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



## **Contents**

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-04-0229

1	Work Order Narrative	3
2	Client Sample Data	4
3	Quality Control Sample Data	5
4	Glossary of Terms and Qualifiers	6
5	Chain of Custody/Sample Receipt Form	7

# eturn to Contents

## Calscience nvironmental aboratories, Inc.

#### **Work Order Narrative**



#### Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 04/03/2013. They were assigned to Work Order 13-04-0229.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

#### **Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT </= 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

#### **Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

#### **Additional Comments:**

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

#### **Subcontract Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.



NELAP ID: 03220CA · DoD-ELAP ID: L10-41 · CSDLAC ID: 10109 · SCAQMD ID: 93LA0830



#### **Analytical Report**



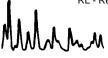
Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 04/03/13 13-04-0229 EPA 508A EPA 508A

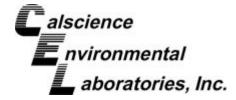
Project: Princeville Utilities Company, Inc.

Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Makai Tennis Shop		13-04-0229-2-A	04/02/13 09:15	Aqueous	GC 44	04/04/13	04/08/13 11:26	130404L21
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
EPD at Ranch House		13-04-0229-3-A	04/02/13 09:40	Aqueous	GC 44	04/04/13	04/08/13 11:40	130404L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Well #2 Post-chlor		13-04-0229-4-A	04/02/13 09:55	Aqueous	GC 44	04/04/13	04/08/13 11:54	130404L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Method Blank		099-14-541-19-A	N/A	Aqueous	GC 44	04/04/13	04/08/13 10:57	130404L21
Parameter	Result	RL	DF	Qual	Units			
Decachlorobiphenyl	ND	0.25	1	<u> </u>	ug/L			







#### **Quality Control - LCS/LCS Duplicate**

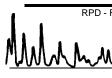


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-04-0229 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix		Instrument		ate pared	Date Analyzed	t	LCS/LCSD Batch Number	
099-14-541-19	Aqueous		GC 44	04/0	04/13	04/08/13		130404L21	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.7383	106	0.7701	111	80-120	4	0-10	





#### **Glossary of Terms and Qualifiers**

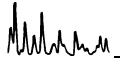


Work Order Number: 13-04-0229

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is

received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



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7440 LINCOLN WAY GARDEN GROVE, C. TEL: (714) 895-5494	Princeville Utilities Company, Inc.	e 221			□ 72 HR				SAMPLING	DATE	4/2/2013
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city: Princeville			STATE:	ZIP ZIP	96722		ğ	Michael Loo	0							5	XX	0	Ben Owen		
TEL: 808-826-6100	E-MAIL:	mloo@princeville.com	lle.com								-	ZEQ!	REQUESTED		ANALYSES	SES					
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Relinquished by: (Sematury)	h "	4/2/13 11:	11:15 am		Received by: (Signature/Affiliation)	(Signatu	re/Affiliat	ou)							Date:			Time:	<u>o</u>	-	age
Relinquished by: (Signature)					Received by: (Signature/Affliation)	(Signatu	re/Affliat	ou)						,	Date /	1/2/	~	Time	6. 620		7 of
Relinquished by: (Signature)	***************************************			Rec	Received by: (Signature/Affiliation)	(Signatu	re/Affiliat	ou)						:	Date			트	.e.;		10
		·													1			-			٦.

06/01/10 Revision

From: (808) 826-0100 Michael Loo Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221 4261 Kekuanaoa Lane Princeville, HI 96722

Origin ID: LIHA



**BILL SENDER** 

SHIP TO: (714) 895-5494 Don Burley Calscience Environmental Lab. 7440 LINCOLN WAY

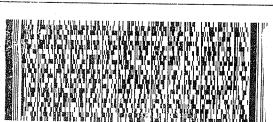
GARDEN GROVE, CA 92841

Ship Date: 02APR13 ActWgt: 40.0 LB CAD: 7665451/INET3370

Dims: 24 X 13 X 14 IN

Delivery Address Bar Code

Ref# Invoice # PO# Dept#



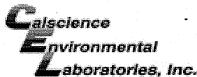
7994 2535 1204

WED - 03 APR 10:30A PRIORITY OVERNIGHT

10:30A PRIORITY OVERNIGHT

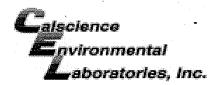






WORK ORDER #: 13-04-0 2 2 9

SAMPLE RECEIPT F		ooler \ of \
CLIENT: Princeville	DATE:	04/03/13
TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not from	ozen except sec	liment/tissue)
Temperature $1 \cdot 4  ^{\circ}\text{C} - 0.2  ^{\circ}\text{C}  (CF) = 11 \cdot 2  ^{\circ}\text{C}$	Blank	☐ Sample
Sample(s) outside temperature criteria (PM/APM contacted by:		
☐ Sample(s) outside temperature criteria but received on ice/chilled on san		ıg.
☐ Received at ambient temperature, placed on ice for transport by		
Ambient Temperature: ☐ Air ☐ Filter		Initial: 1
	- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	7.7
CUSTODY SEALS INTACT:		
□ Cooler □ □ No (Not Intact) Not Prese	ent □ N/A	Initial: <u>1</u>
□ Sample □ □ No (Not Intact) ✓ Not Prese	ent	Initial: <u>#M</u>
CAMPI E CONDITION.	V	NI- NI/A
SAMPLE CONDITION:  Chair Of Custody (COC) decument(s) received with complete	Yes	No N/A
Chain-Of-Custody (COC) document(s) received with samples	~	
COC document(s) received complete	,	
☐ Collection date/time, matrix, and/or # of containers logged in based on sample la	bels.	
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.		
Sampler's name indicated on COC		
Sample container label(s) consistent with COC		
Sample container(s) intact and good condition		
Proper containers and sufficient volume for analyses requested		
Analyses received within holding time		
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hou		
Proper preservation noted on COC or sample container	Д	
☐ Unpreserved vials received for Volatiles analysis		
Volatile analysis container(s) free of headspace		
Tedlar bag(s) free of condensation  CONTAINER TYPE:	🗆	
Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □EnC	ores [®] □Terra0	Cores [®] □
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AG	Bp Ž1AGB 🗆	]1AGB <b>na₂</b> □1AGB <b>s</b>
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CG	GBs □1PB □	]1PB <b>na</b> □500PB
□250PB □250PB <b>n</b> □125PB □125PB <b>znna</b> □100PJ □100PJ <b>na</b> ₂ □	<u></u>	
Air: □Tedlar [®] □Canister Other: □ Trip Blank Lot#:	Labeled/C	hecked by:
Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag Preservative: h: HCL n: HNO ₃ na ₂ :Na ₂ S ₂ O ₃ na: NaOH p: H ₃ PO ₄ s: H ₂ SO ₄ u: Ultra-pure znna: ZnAo		eviewed by: YU



WORK ORDER #: 13-04-0 2 2 2 2

## SAMPLE ANOMALY FORM

SAMPLE	ES - CO	NTAIN	ERS & L	ABELS:			Comme	ents:	
□ Samp □ Hold □ Insuf □ Impre □ Impre □ Samp □ Samp □ Samp □ Samp □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	ple(s) reing time ing time ificient of oper con oper pre reservat ple labe ple labe Sample Sample Date ar Project # of Co Analysi ple cont Water p	expired la expired quantitie ntainer(s) eservative note it is illegible if illegible intainer(s) ainer(s) esent it illegible if illegible illegi	out NOT led — list sands for and set on CO ole — note not match ation s)  compror in sample not labe	list test C or label – test/containe COC – Note ted  mised – Note container	coc nd test est list test & er type e in comr	nents	(-1) Rec	2 X I A	mber Glass bottle Broken
	Leaking Leaking Leaking	g (transf	ansferred	d - duplicate o Calscienc o Client's Te	e Tedlar	® Bag*)			
HEADSI	PACE -	Contai	iners wit	h Bubble >	6mm o	or ¼ inch	*		
Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis
		-		-					
Comment	ts:								
*Transferr	ed at Clie	ent's requ	est.	·			i Ir	nitial / Da	te: <u>}</u>



Page 1

**CERTIFICATE OF ANALYSIS** 

Reported by Alloway - Marion

Chain of Custody attached

Lab Project #

M13-14414

Received:

4/11/2013

Reported:

4/23/2013

Date/Time Sampled:

04/09/2013 11:20

Sampled By: Sampled Matrix: Ben Owen

Containers:

**Drinking Water** 

**Collection Method:** 

2

**Project Name:** 

Attn: Michael Loo

Princeville Utilities Company Inc.

5-3541 Kuhio Highway, Suite 221

Princeville, Hawali 96722

Princeville Utilities Company Inc.

Grab

Sample ID:

Well #2 Post Chlorination

Lab Sample #

M13-14414-01

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 06:36

Analysis Certified By:

This report shall not be reproduced, except in its entirety, without the written approval of the laboratory. The results presented on this Certificate of Analysis only reflect those parameters that were requested by the client on the chain of custody or other documentation received with the sample(s). The analytical results relate only to the items tested. Analytical results are based on dry-weights for solid samples, unless otherwise specified.



5-3541 Kuhio Highway, Suite 221

Princeville, Hawaii 96722

**CERTIFICATE OF ANALYSIS** 

Reported by Alloway - Marion

Chain of Custody attached

Lab Project #

M13-14414

Received:

4/11/2013

Reported:

4/23/2013

Date/Time Sampled:

04/09/2013 09:45

Sampled By: Sampled Matrix: Ben Owen

Outrological

Drinking Water

Containers:

2

Collection Method:

Grab

Project Name:

Attn: Michael Loo

Princeville Utilities Company Inc.

Sample ID:

Well #1 Post Chlorination

Lab Sample #

M13-14414-02

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 07:12

Analysis Certified By:_

Rhonda C Morris



5-3541 Kuhio Highway, Suite 221

Princeville, Hawaii 96722

**CERTIFICATE OF ANALYSIS** 

Reported by Alloway - Marion

Chain of Custody attached

Lab Project #

M13-14414

Received:

4/11/2013

Reported:

4/23/2013

Date/Time Sampled:

**Collection Method:** 

04/09/2013 10:35

Sampled By:

Ben Owen

Sampled Matrix:

**Drinking Water** 

Containers:

2 Grab

Princeville Utilities Company Inc.

Sample ID:

**Project Name:** 

Attn: Michael Loo

St. Regis Pook Deck

Lab Sample #

M13-14414-03

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 07:47

Analysis Certified By:_

Rhonda C Morris



5-3541 Kuhio Highway, Suite 221

**CERTIFICATE OF ANALYSIS** 

Reported by Alloway - Marion

Chain of Custody attached

Lab Project #

M13-14414

Received:

4/11/2013

Reported:

4/23/2013

Date/Time Sampled:

04/09/2013 10:50

Sampled By:

Ben Owen

Sampled Matrix:

Drinking Water

Containers:

2

Collection Method:

Grab

Project Name:

Attn: Michael Loo

Princeville, Hawaii 96722

Princeville Utilities Company Inc.

Sample ID:

Makai Tennis

Lab Sample #

M13-14414-04

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 08:23

Analysis Certified By:_

Rhonda C Morris



5-3541 Kuhio Highway, Suite 221

Princeville, Hawaii 96722

**CERTIFICATE OF ANALYSIS** 

Reported by Alloway - Marion

Chain of Custody attached

Lab Project#

M13-14414

Received:

4/11/2013

Reported:

4/23/2013

Date/Time Sampled:

**Collection Method:** 

04/09/2013 11:10

Sampled By: Sampled Matrix: Ben Owen

Campica ma

**Drinking Water** 

Containers:

2 Grab

Project Name:

Attn: Michael Loo

Princeville Utilities Company Inc.

Sample ID:

**EPD Ranch House** 

Lab Sample #

M13-14414-05

Analyte	Results	Units	PQL	Preparation Method	Analytical Method	Analyst	Extraction Date	Analysis Date/Time
PCBs as Decachlorobiphenyl (DCB)	<0.10	ug/L	0.10	EPA-508A	EPA-508A	RDK	04/16/2013	04/20/2013 08:59

Analysis Certified By:_

Rhonda C Morris

Rhonda P. Morris



Marion

Project: M13-14414





t/3

O 1101 North Cole Street, Lima, OH 45805 (P) 419-223-1362 (F) 419-227-3792

(F) 413-223-1302 (T) 413-221-372 1776 Marion-Waldo Road, Marion OH 43302 (P) 740-389-5991 (F) 740-389-1481

O 508 Bissman Court, Mansfield, OH 44903 (P) 419-525-1644 (F) 419-524-5575

Namo	pany: Prince oss: 5-354	ael Loo eville Utilities Company, Inc. 11 Kuhio Highway, Suite 221 sville, Hawaii 96722		Company: Address:					Plans Cliens	redi w	un ALL y idh wext s	olue i	nce m +1	his coo	les do offles.
1	Phone #:	808-826-6100, Ext. 20		Fax#:	808-827-80	)19			Approximation of the state of t						į
	E-mail:	mloo@princeville.com			PO#:										
Pro	oject Name	Princeville Utilities	Comp	any, In	c.					Next Day	1 1	und: ( <i>Rush</i> Iorking Days	Charges May A		
	Sampler	(Pring Ben Owen		(Signature)	Benji	_Ou			2 Worki	ing Days	5 W	orking Days	· 🗸	R	outine
	\$a	Customer mple ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #		Ana	alysis Requi	red		Alioway LIMS # For Lab Use Only
1	Well #	2 Post Chlorination	4-9-13	alles	1:20	×	du	-			PC	CB 508	8A		0[
2	Well #	1 Post Chlorination	4-9-13	mro	٠ ځ.	×	dw	1	\		PC	CB 508	ВА		02
3	St. F	Regis Pook Deck	4-9-13	10:35		۴	dw	1	1		PC	CB 508	8A		03
4	ľ	Makai Tennis	4-9-13	10:50		4	des	7	1		PC	CB 508	8 <b>A</b>		CY
5	EPC	) - Ranch House	4-9-13	11:10		K	dw	1	1		PC	CB 508	8 <b>A</b>		05
6															
7															
8		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,													
	Relinqui	shed by:	Received	by:			Date	Time	Method of De	ellvery	Matrix Codes:	Р	reservation Co	odes:	Sample Receiving
1/	30pi	:-n					4/9/3	12:45	UPS 🗖		ww - wastewater gw - groundwater	1 - None	7 - Sodium Thiosulfate	13 - Zinc Acetate	(For Lab Use Only)
2	7						<del>       </del>		Fed Ex		dw - drinking water sw - surface water	2 - HNO ₃	6 - Ascorbic Acid	14 - Sodium Sulfite	Ice Present?
3									Client		w - water oll - oil	3 - H ₂ SO ₄	9 - Malelc Acid	15 - Potassium Dihydrogen Citrate	Y D N D
4									Alloway Pick Up		s - solid sg - sludge	4 - HC;	10 - EDA	16 - Sodium Sulfite/Sodium Bisulfate	Proper Preservation?
5		·	- and becoming the fact of the						Alloway Samplin		1 - feachate a - acid	5 - NaOH	11 - Ammonium Chloride		YO NO
6						$\overline{\gamma}$			Other 🗖	-	p - product o - other	6 - NaOH & Zinc Acetate	12 - (NH ₄ ) ₇ SO ₄ & NH ₄ OH		
Re	ceived for	Laboratory By: (circle one	: Manst	field L	ima (Ma	rion	1 16 4 -	_	1						Container Temperature:
(Si	gnature)	A. Will					4-11-13	0930	)						.6
		Transported to: Lima Marion	Ву				Re	eceived By:				Date	*	Time:	
		Transported to: Lima	Bv:	:			Re	eceived Bv:				Date	:	Time:	



### **Chain of Custody Record**

This is a legal document that authorizes Alloway to perform testing on samples submitted under this agreement,

O 1101 North Cole Street, Lima, OH 45805 (P) 419-223-1362 (F) 419-227-3792

 1776 Marion-Waldo Road, Marion OH 43302
 (P) 740-389-5991 (F) 740-389-1481
 508 Bissman Court, Mansfield, OH 44903 (P) 419-525-1644 (F) 419-524-5575

Name	Prince 5-354	el Loo eville Utilities Company, Inc. 1 Kuhio Highway, Suite 221 ville, Hawaii 96722		Invoice To (If Name: Company: Address:	Different):	1441	4		Please	1 to	form ALL		omments: e ie p next sl	acks in	n this of sample
ı	Phone #:	808-826-6100, Ext. 20		Fax#:	808-827-80	19			100 KI VE	_					
	E-mail:	mloo@princeville.com		<del> </del>	PO#:						Turnaroi	und: (Rush	Charges May A	poly)	
Pro	ject Name	Princeville Utilities	Comp	any, Ind	C				N	lext Day	1 1	orking Days			outine
	Sampler	Print Ble Ower		(Signature)	Zuji	<del>-</del> O-			2 Worki	ng Days	5 W	orking Days	· 🗸		outine
	Sa	Customer nple ID / Sample Location	Sample Date	Sample Time	Composite	Grab	Matrix Code	Number of Containers	Preservation Code #		Ana	alysis Roqui	red		Alloway LIMS# For Lab Use Only
1	Well #	2 Post Chlorination	4-9-13	90005 L	:20	K	du	1	TS		P	CB 50	8		
2	Well #	1 Post Chlorination	4-9-13	V1809	215	*	Asu	1	TS		P	CB 50	8		
3			4-9-13			X	den	9	TS		P	CB 50	8		1
4	١		4-9-13			4	de	1	TS		P	CB 50	)8		
5	EPD		4-9-13			×	dw	(	TS		P	CB 50	)8		
6										isi	Monly be	ran	ifth	eve is	
7										<i>(</i> )λ					1W4-11-13
8											×			( · ·	
	Relinquis	hed by:	Received	by:	l		Date	Time	Method of De	livery	Matrix Codes:	Pi	reservation C	odes:	Sample Receiving
V	Bons	. Bh					4/9/13	12:45	UPS 🗀		ww - wastewater gw - groundwater	1 - None	7 - Sodium Thiosulfate	13 - Zinc Acetate	(For Lab Use Only)
2	7						1 1		Fed Ex		dw - drinking water sw - surface water	2 - HNO ₃	8 - Ascorbic Acid	14 - Sodium Sulfite	içe Present?
3									Client		w - water  oil - oil	3 - H ₂ SO ₄	9 - Maleic Acid	15 - Potassium Dihydrogen Citrate	lçe Present? Y (E/IV III □
4			<u></u>						_	_	s - solid	4 - HC1	10 - EDA	16 - Sodium Sutfite/Sodium	Proper Preservation?
5									Alloway Pick Up		sg - sludge I - leachate	5 - NaOH	11 - Ammonium Chloride	Bisulfate	Y N D
6									Alloway Sampling Other	g 🗀	a - acid p - product	6 - NaOH & Zinc Acetate	12 • (NH ₄ ) ₂ SO ₄ & NH ₄ OH		
Re	ceived for	Laboratory By: (circle one	): Mansf	ield Li	ma Ma	rion		سابعر و	Other La		o - other		-		Container Temperature:
(Si	gnature)	A	Wel	h			4113	0930							<u> </u>
		Transported to: Lima Marion	Ву:				Re	ceived By:				Date:	•	Time:	
		Transported to: Lima Marion	Ву:				_ Re	ceived By:	·. ·.			Date	*	Time:	

Cooler Temp___

	·		5	08		Ì	51	5.1			52	5.2		53	1.2	<u> </u>	548	<u>8.1</u>		54	9.2		55	2.2	
_		Rottle A			B01118 B	Roffle A		0 011100	orne	Pottio		Roffle B	, I	A oltro	. 1	A 61#0		Bottle B		Bottle		Rottle		Bottle B	
	Sample ID	CL-T	Hq	CL-T	Нq	CL-T	нd	CL-T	Hđ	CL-T	Hd	CL-T	됩	CL-T	됩	CL-T	돲	CL-T	표	CL-T	五	CL-F	돐	CL-F	표
1	O(	-8	7	ND	7																				
2	O'L	1	1	L	1																				
3	03																								
4	OY	V	V	V	V																				
5	05	8.	7	ND	Ì																				
6																									
7																									
8					ļ																				
9																									
10																									

	*	21	8.7	30	0.1		5	22		537	539
		A clined	V anno	A office	Valling	Bottle A	K alling	a vinva	d allind	Bottle A	Bottle A
	Sample ID	CL-F	Hq	CL-F	Нd	CL-T	Æ	1-70	Hď	CL-F	CL-F
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

Expected	pH ranges
508	Neutral
515	Neutral
525.2	<2
531.2	3 to 4
548.1	Neutral **
549.2	≤2
552.2	Neutral
218.7	>8
300.1	Neutral
522	<4

^{**}Can be acidified to <2 if biological activity is present





## **CALSCIENCE**

**WORK ORDER NUMBER: 13-04-1203** 

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

**Analytical Report For** 

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

**Attention:** Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Am

Bule

Approved for release on 04/24/2013 by: Don Burley Project Manager

nezo:

ResultLink >

Email your PM >

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



## **Contents**

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-04-1203

1	Work Order Narrative	3
2	Client Sample Data	4 4
3	Quality Control Sample Data	6 6
4	Glossary of Terms and Qualifiers	7
5	Chain of Custody/Sample Receipt Form	8



#### **Work Order Narrative**



#### **Condition Upon Receipt:**

Samples were received under Chain of Custody (COC) on 04/17/2013. They were assigned to Work Order 13-04-1203.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

#### **Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT </= 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

#### **Quality Control:**

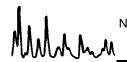
All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

#### **Additional Comments:**

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

#### **Subcontract Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.



NELAP ID: 03220CA DoD-ELAP ID: L10-41

CSDLAC ID: 10109

SCAQMD ID: 93LA0830

FAX: (714) 894-7501

7440 Lincoln Way, Garden Grove, CA 92841-1427 . TEL:(714) 895-5494 .



#### **Analytical Report**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 04/17/13 13-04-1203 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 2

Project: Princeville Utilitie	es Company, i	nc.					Pa	ige 1 of 2
Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Well #1 Post Chlorination		13-04-1203-1-A	04/16/13 11:00	Aqueous	GC 44	04/18/13	04/22/13 17:29	130418L21
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
St. Regis Pool Deck		13-04-1203-2-A	04/16/13 08:35	Aqueous	GC 44	04/18/13	04/22/13 17:51	130418L21
Parameter_	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Makai Tennis		13-04-1203-3-A	04/16/13 08:50	Aqueous	GC 44	04/18/13	04/24/13 16:42	130418L21
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
EPD-Ranch House		13-04-1203-4-A	04/16/13 09:05	Aqueous	GC 44	04/18/13	04/22/13 18:20	130418L21
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
PV 11		13-04-1203-5-A	04/16/13 10:30	Aqueous	GC 44	04/18/13	04/24/13 16:57	130418L21
Parameter	Result	RL	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
PV 12		13-04-1203-6-A	04/16/13 10:10	Aqueous	GC 44	04/18/13	04/24/13 17:11	130418L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			



DF - Dilution Factor ,

Qual - Qualifiers





#### **Analytical Report**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 04/17/13 13-04-1203 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 2 of 2

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PV 13		13-04-1203-7-A	04/16/13 10:20	Aqueous	GC 44	04/18/13	04/24/13 17:25	130418L21
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	0.55	0.25	1		ug/L			
Method Blank		099-14-541-21	N/A	Aqueous	GC 44	04/18/13	04/22/13 17:15	130418L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			







#### **Quality Control - LCS/LCS Duplicate**

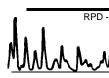


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-04-1203 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix		Instrument		ate pared	Date Analyzed	i	LCS/LCSD Batch Number	
099-14-541-21	Aqueous	i	GC 44	04/	18/13	04/22/13		130418L21	
<u>Parameter</u>	<u>SPIKE</u> ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.6189	89	0.6146	88	80-120	1	0-10	



Contents



#### **Glossary of Terms and Qualifiers**

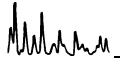


Work Order Number: 13-04-1203

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

r % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



alscience	7440 LINCOLN WA
nvironmental	GARDEN GROVE,

CHAIN OF CUSTODY RECORD

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aboratories, Inc.	TEL: (714) 89	TEL: (714) 895-5494 . FAX: (714) 894-7501	(: (714) 894	-7501			3	5	7			PAGE:				٩	احب		1
ABORATORY CLIENT: Princeville Util	Princeville Utilities Company, Inc.	/, Inc.					CLIENT	CLIENT PROJECT	NAME/NUI	LIENT PROJECT NAME / NUMBER: Princeville   Jillities Company Inc.	nv.			<u>a.</u>	P.O. NO.:				
ADDRESS: 5-3541 Kuhio Highway, Suite 221	, Suite 221						PROJEC	PROJECT CONTACT:	i i					0 0	SAMPLER(S): (PRINT)	S): (PRIN			
OITY: Princeville			STATE:	ZIP:	96722		Micha	Michael Loo						<u>'</u>	Bar	Õ	Ower.		
TEL: 808-826-6100	E-MAIL: mloc	mloo@princeville.com	le.com								REQ	JESTE	D AN	REQUESTED ANALYSES	ES				
TURNAROUND TIME:	IR 🗆 72 HR	⊠ 5 DAYS	S 🗆 10 DAYS	DAYS				(											
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Well #2 Post Chlorination	4/16/2013	3460	out	2	×											×			
2 St. Regis Pook Deck	4/16/2013	0835		4	×											×			
3 Makai Tennis	4/16/2013 08 50	0850		4	×											×			-
FPD - Ranch House	4/16/2013 0905	9060	٨	2	×											×			
2 PV 11	4/16/15	10:30		7	×										-	×			
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7 PV 13	Ą	10:29	*	7	×											×			
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06/01/10 Revision

SHIP TO: (714) 895-5494

Origin ID: LIHA

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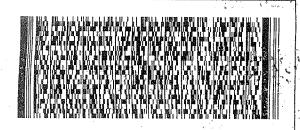
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**BILL SENDER** 

Don Burley Calscience Emwronmental Lab.

7440 LINCOLN WAY

**GARDEN GROVE, CA 92841** 



Ship Date: 16APR13 ActWgt: 40.0 LB CAD: 7665451/INET3370

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Page 9 of 12 203

Delivery Address Bar Code



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92841 CA-US SNA





WED - 17 APR 10:30 PRIORITY OVERNIGHT

WZ APVA

92841

From: (808) 826-6100 Michael Loo Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221 4261 Kekuanaoa Lane Princeville, HI 96722

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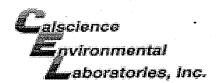




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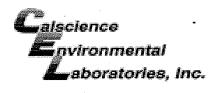




WORK ORDER #: 13-04- 1 2 0 5

## SAMPLE RECEIPT FORM Cooler 1

CLIENT: Princeville DATE:	04/17/13
TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sedication of the second sec	Sample
CUSTODY SEALS INTACT:  Cooler    No (Not Intact) Not Present N/A  Sample    No (Not Intact) Not Present	Initial: 4
SAMPLE CONDITION:  Chain-Of-Custody (COC) document(s) received with samples.  COC document(s) received complete.  Collection date/time, matrix, and/or # of containers logged in based on sample labels.	No N/A
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.  Sampler's name indicated on COC	
Sample container(s) intact and good condition	
Proper preservation noted on COC or sample container	
CONTAINER TYPE:  Solid:   \$\text{G} 40zCGJ	]1AGB <b>na</b> ₂ □1AGB <b>s</b>
□ 250PB □ 250PBn □ 125PB □ 125PBznna □ 100PJ □ 100PJna₂ □ □ □ □ □ Air: □ Tedlar [®] □ Canister Other: □ □ Trip Blank Lot#: □ Labeled/C Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Represervative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered State of the property of the pr	checked by:



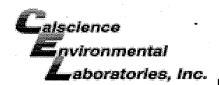
WORK ORDER #: 13-04- ☐ 2

## IPLE RECEIPT FORM

Cooler 2 of 2

TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C - 6.0 °C, not frozen except sediment/tissue) Temperature	CLIENT: <u>Parmeville</u> DATE: <u>U4/17/13</u>								
Sample(s) outside temperature criteria (PM/APM contacted by:	TEMPERATURE: Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)								
Sample(s) outside temperature criteria (PM/APM contacted by:).    Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.   Received at ambient temperature, placed on ice for transport by Courier.   Ambient Temperature:   Air   Filter   Initial:	Temperature S • 1 °C - 0.2 °C (CF) = 4 • 9 °C □ Blank □ Sample								
Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.   Received at ambient temperature, placed on ice for transport by Courier.   Ambient Temperature:   Air   Filter   Initial:									
Received at ambient temperature, placed on ice for transport by Courier.  Ambient Temperature:   Air   Filter   Initial:									
CUSTODY SEALS INTACT:   No (Not Intact)   Not Present   N/A   Initial:   In									
CUSTODY SEALS INTACT:    Cooler	MD								
Cooler	7 and an								
SAMPLE CONDITION:  Yes No N/A Chain-Of-Custody (COC) document(s) received with samples	CUSTODY SEALS INTACT:								
SAMPLE CONDITION:  Yes No N/A Chain-Of-Custody (COC) document(s) received with samples	□ Cooler □ □ No (Not Intact) ☑ Not Present □ N/A Initial: 1								
Chain-Of-Custody (COC) document(s) received with samples	□ Sample □ □ No (Not Intact) □ Not Present Initial:								
Chain-Of-Custody (COC) document(s) received with samples									
COC document(s) received complete									
Collection date/time, matrix, and/or # of containers logged in based on sample labels.  No analysis requested. Not relinquished. No date/time relinquished.  Sampler's name indicated on COC	Chain-Of-Custody (COC) document(s) received with samples								
No analysis requested. Not relinquished. No date/time relinquished.   Sampler's name indicated on COC. □   Sample container label(s) consistent with COC. □   Sample container(s) intact and good condition. □   Proper containers and sufficient volume for analyses requested. □   Analyses received within holding time. □   pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours. □   Proper preservation noted on COC or sample container. □   □ Unpreserved vials received for Volatiles analysis   Volatile analysis container(s) free of headspace. □   Tedlar bag(s) free of condensation. □   CONTAINER TYPE:   Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □EnCores® □TerraCores® □   Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp □1AGB □1AGBna₂ □1AGBs   □500AGB □500AGJ □500AGJs □250AGB □250CGBs □1PB □1PBna □500PB	COC document(s) received complete								
Sampler's name indicated on COC	☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.								
Sample container label(s) consistent with COC	☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.								
Sample container(s) intact and good condition	Sampler's name indicated on COC.								
Proper containers and sufficient volume for analyses requested	Sample container label(s) consistent with COC								
Analyses received within holding time	Sample container(s) intact and good condition								
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours    Proper preservation noted on COC or sample container    Unpreserved vials received for Volatiles analysis  Volatile analysis container(s) free of headspace    Tedlar bag(s) free of condensation    CONTAINER TYPE:  Solid:    Solid:    VOA    VOAh    VOAna2    125AGB    125AGBh    125AGBp    AGB    1AGBna2    1AGBs    500AGB    500AGJ    500AGJ    500PB	Proper containers and sufficient volume for analyses requested □ □								
Proper preservation noted on COC or sample container	Analyses received within holding time								
Unpreserved vials received for Volatiles analysis  Volatile analysis container(s) free of headspace	pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours								
Volatile analysis container(s) free of headspace	Proper preservation noted on COC or sample container								
Tedlar bag(s) free of condensation	☐ Unpreserved vials received for Volatiles analysis								
CONTAINER TYPE:  Solid:	Volatile analysis container(s) free of headspace								
Solid:   4ozCGJ	Tedlar bag(s) free of condensation								
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp □1AGB □1AGBna₂ □1AGBs □500AGB □500AGJ □500AGJs □250AGB □250CGBs □1PB □1PBna □500PB									
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □1PBna □500PB									
	Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp □1AGB □1AGBna₂ □1AGBs								
□250PR □250PRn □125PR □125PRznna □100P I □100P Ina。□ □ □	□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB □1PBna □500PB								
12001 B 12001 B 1 1201 B 1 1201 B 1 1001 0 1 1001 0 1102	□250PB □250PBn □125PB □125PB <b>znna</b> □100PJ □100PJ <b>na₂</b> □ □ □								
Air: Tedlar® Canister Other: Trip Blank Lot#: Labeled/Checked by:	Air: Dedlar® Canister Other: Trip Blank Lot#: Labeled/Checked by:								

Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by:



WORK ORDER #: 13-04- [ 2 0 3

## SAMPLE ANOMALY FORM

SAMPLE	ES - CO	NTAIN	ERS & L	ABELS:			Comme	ents:	
□ Sample(s) received but NOT LISTED on COC   □ Holding time expired – list sample ID(s) and test   □ Insufficient quantities for analysis – list test   □ Improper container(s) used – list test   □ Improper preservative used – list test   □ No preservative noted on COC or label – list test & notify lab   □ Sample labels illegible – note test/container type   ☑ Sample label(s) do not match COC – Note in comments   ☑ Sample lD   □ Date and/or Time Collected   □ Project Information   □ # of Container(s)   □ Analysis   □ Sample container(s) compromised – Note in comments   □ Broken   □ Sample container(s) not labeled   □ Air sample container(s) compromised – Note in comments   □ Flat   □ Very low in volume   □ Leaking (Not transferred - duplicate bag submitted)   □ Leaking (transferred into Calscience Tedlar® Bag*)   □ Leaking (transferred into Client's Tedlar® Bag*)					(-2) LA	ECK, DAT	AS ST REGIS POOL E MATCHED (NO COLLECTION NE ON LAISEL).		
☐ Other:									
HEADS	PACE -	Contai	ners wit	h Bubble >	6mm o	r ¼ inch:			
Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis
Comment	ts:						3.44.00		
*Transferr	ed at Clie	ent's requ	est.				Ir	nitial / Da	te: 1 04 /17 /13

Return to Contents

SOP T100_090 (08/31/11)





## **CALSCIENCE**

WORK ORDER NUMBER: 13-04-1882

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

**Analytical Report For** 

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

**Attention:** Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Am

Binley

Approved for release on 04/30/2013 by: Don Burley

Project Manager



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

ResultLink >

Email your PM >



## **Contents**

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-04-1882

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4	Glossary of Terms and Qualifiers	6
5	Chain of Custody/Sample Receipt Form	7

# nvironmental aboratories, Inc.

#### **Work Order Narrative**



#### Condition Upon Receipt:

Samples were received under Chain of Custody (COC) on 04/26/2013. They were assigned to Work Order 13-04-1882.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

#### **Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT </= 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

#### **Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

#### Additional Comments:

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

#### Subcontract Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.



#### **Analytical Report**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 04/26/13 13-04-1882 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Page 1 of 1

1 Toject. 1 Tillocville Otilitie	23 Company, 1	110.					1 0	age i oi i
Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch II
St. Regis Pool Deck		13-04-1882-1-A	04/25/13 07:20	Aqueous	GC 44	04/29/13	04/30/13 10:35	130429L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Makai Tennis		13-04-1882-2-A	04/25/13 07:40	Aqueous	GC 44	04/29/13	04/30/13 10:49	130429L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
EPD - Ranch House		13-04-1882-3-A	04/25/13 08:15	Aqueous	GC 44	04/29/13	04/30/13 11:04	130429L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Well #1 Post Chlorination		13-04-1882-4-A	04/25/13 08:00	Aqueous	GC 44	04/29/13	04/30/13 11:18	130429L21
Parameter	Result	RL	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Method Blank		099-14-541-22	N/A	Aqueous	GC 44	04/29/13	04/30/13 10:21	130429L21
Parameter Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			







#### **Quality Control - LCS/LCS Duplicate**

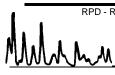


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-04-1882 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix Aqueous	-	nstrument GC 44	Pre	ate pared 29/13	Date Analyzed		LCS/LCSD Batch Number 130429L21	
033-14-341-22	Aqueous	1	30 44	04//	29/13	04/30/13		130429L21	
<u>Parameter</u>	<u>SPIKE</u> <u>ADDED</u>	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.6524	94	0.6262	90	80-120	4	0-10	





#### **Glossary of Terms and Qualifiers**

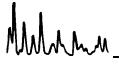


Work Order Number: 13-04-1882

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



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7440 LINCOLN WAY

**GARDEN GROVE, CA 92841-1427** 

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CHAIN OF CUSTODY RECORD

Rollan A Panac Time: 1040 PCBS (8082) SAMPLER(S): (PRINT) Р × × PCBS (508A) Cr(VI) [7196 or 7199 or 218.6] REQUESTED ANALYSES T22 Metals (6010/747X) (0728) to (0188) sAN9 **LCB**2 (8082) AGE: Pesticides (8081) SVOCs (8270) Princeville Utilities Company, Inc. En Core / Terra Core Prep (5035) Oxygenates (8260) AOCs (85e0) BTEX / MTBE (8260) or ( PROJECT CONTACT ) H9T Michael Loo TPH(d) or DRO or (C6-C36) or (C6-C44) Received by: (Signature/Affiliation) Received by: (Signature Affiliation) TPH(g) or GRO mn Field Filtered TOG CODE Preserved 96722 Unpreserved × × NO. OF CONT. ☐ 10 DAYS TEL: (714) 895-5494 . FAX: (714) 894-7501 豆 MATRIX mloo@princeville.com X 5 DAYS 4:00 EM 4/25/2013 | P. 15 AM 4/25/2013 8100 AM 4/25/2013 7.40 AL Princeville Utilities Company, Inc. SAMPLING 4/25/2013 ☐ 72 HR 5-3541 Kuhio Highway, Suite 221 DATE 48 HR Well #1 Post Chlorination GLOBAL ID: EPD - Ranch House St. Regis Pook Deck □ 24 HR SAMPLE ID Relinquished by: (Signature) 808-826-6100 Makai Tennis SPECIAL INSTRUCTIONS: Princeville COELT EDF ☐ SAME DAY Relinquished Relinquish LAB USE ONLY N CITY:

Return to Contents

06/01/10 Revision



From: (808) 826-6100 Michael Loo Princeville Utilities Company. 5-3541 Kunic Highway, Suite 221 4261 Kekuanaoa Lane Princeville, HI 96722

Origin ID: LIHA



Ship Date: 25APR13 ActWgt: 40.0 LB CAD: 7665451/INEY3370

BILL SENDER

SHIP TO: (714) 895-5494 Don Burley

Calscience Environmental Lab. 7440 LINCOLN WAY

**GARDEN GROVE, CA 92841** 

Ref# invoice & PO# Dept #

TRK# 7996 0694 6440 0201

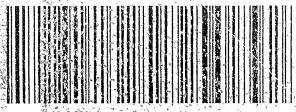
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<b>E</b> pvironmental	WOI	RK ORDER #:	13-04	4-416	کا لھا لے
Aboratorles, Inc.	E REC	EIPT FOI	RM (	Cooler _	of
CLIENT: Princeville			DATE:	04/	26/13
TEMPERATURE: Thermometer ID: SC1 (Cr	iteria: 0.0 °C	– 6.0 °C, not frozer	n except se	diment/tiss	sue)
Temperature 4 • 6 °C - 0.2 °C (	CF) =	t.4°C 5	Blank	☐ Samı	ole
☐ Sample(s) outside temperature criteria (PM		,			
☐ Sample(s) outside temperature criteria but r	eceived on ic	e/chilled on same da	ay of sampl	ing.	ē
☐ Received at ambient temperature, place	ed on ice fo	r transport by Co	urier.		
Ambient Temperature: ☐ Air ☐ Filter				Initi	al: <u> </u>
					<i>V V</i> ***
CUSTODY SEALS INTACT:					10
☑ Cooler □ □ No (N	Not Intact)	☐ Not Present	□ N/A	lnit	ial: ///
☐ Sample ☐ ☐ No (N	Not Intact)	Not Present		lnit	ial: <u>YS</u>
SAMPLE CONDITION:		· .	Yes	No	N/A
Chain-Of-Custody (COC) document(s) receiv	ed with sam				
COC document(s) received complete		·			
Collection date/time, matrix, and/or # of containe					_
☐ No analysis requested. ☐ Not relinquished.	/ .				
Sampler's name indicated on COC	-				
Sample container label(s) consistent with CC		*			
Sample container(s) intact and good conditio	n		Z		
Proper containers and sufficient volume for a	nalyses req	uested			
Analyses received within holding time			,e'		
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxy	gen received	d within 24 hours	. 🗆		
Proper preservation noted on COC or sample	container				
☐ Unpreserved vials received for Volatiles ana	•				
Volatile analysis container(s) free of headspa					
Tedlar bag(s) free of condensation  CONTAINER TYPE:		· · · · · · · · · · · · · · · · · · ·			
Solid: □4ozCGJ □8ozCGJ □16ozCGJ	□Sleeve (_	) □EnCores	s [®] □Terra	Cores [®] □	
Water: □VOA □VOAh □VOAna₂ □125A0	GB □125A	GB <b>h</b> □125AGB <b>p</b>	Ø1AGB (	□1AGB <b>na</b> ;	₂ □1AGB <b>s</b>
□500AGB □500AGJ □500AGJ <b>s</b> □250A	GB □2500	CGB □250CGBs	□1PB	□1PB <b>na</b>	□500PB
□250PB □250PBn □125PB □125PB <b>z</b> nn	a □100PJ	□100PJ <b>na₂</b> □			]

Air: □Tedlar® □Canister Other: □ _____ Trip Blank Lot#:_

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope

Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by:

Labeled/Checked by:

Reviewed by: _





# **CALSCIENCE**

**WORK ORDER NUMBER: 13-05-0112** 

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

**Analytical Report For** 

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

**Attention:** Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

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Approved for release on 05/6/2013 by: Don Burley Project Manager

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Email your PM )

ResultLink >

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



## **Contents**

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-05-0112

1	Work Order Narrative	3
2	Client Sample Data	4 4
3	Quality Control Sample Data	5 5
4	Glossary of Terms and Qualifiers	6
5	Chain of Custody/Sample Receipt Form	7

# Calscience nvironmental aboratories, Inc.

#### **Work Order Narrative**



#### **Condition Upon Receipt:**

Samples were received under Chain of Custody (COC) on 05/02/2013. They were assigned to Work Order 13-05-0112.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

#### **Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with an immediate holding time (HT </= 15 minutes --40CFR-136.3 Table II footnote 4), is considered a "field" test and reported samples results are not flagged unless the analysis is performed beyond 24 hours of the time of collection.

#### **Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

#### **Additional Comments:**

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

#### **Subcontract Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

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Mulhan

NELAP ID: 03220CA DoD-ELAP ID: L10-41

CSDLAC ID: 10109

SCAQMD ID: 93LA0830

FAX: (714) 894-7501





#### **Analytical Report**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 05/02/13 13-05-0112 EPA 508A EPA 508A

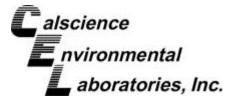
Project: Princeville Utilities Company, Inc.

Page 1 of 1

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Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch II
St. Regis Pool Deck		13-05-0112-1-A	05/01/13 07:10	Aqueous	GC 44	05/03/13	05/03/13 16:26	130503L21
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Makai Tennis		13-05-0112-2-A	05/01/13 07:36	Aqueous	GC 44	05/03/13	05/03/13 16:44	130503L21
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
EPD - Ranch		13-05-0112-3-A	05/01/13 08:00	Aqueous	GC 44	05/03/13	05/03/13 16:59	130503L21
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Well #2 Post Chlorination		13-05-0112-4-A	05/01/13 08:28	Aqueous	GC 44	05/03/13	05/03/13 17:13	130503L21
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	Units			
Decachlorobiphenyl	ND	0.25	1		ug/L			
Method Blank		099-14-541-23	N/A	Aqueous	GC 44	05/03/13	05/03/13 16:12	130503L21
^o arameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Decachlorobiphenyl	ND	0.25	1		ug/L			







#### **Quality Control - LCS/LCS Duplicate**

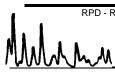


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-05-0112 EPA 508A EPA 508A

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix		Instrument		ate pared	Date Analyzed	t	LCS/LCSD Batch Number	
099-14-541-23	Aqueous		GC 44	05/0	03/13	05/03/13		130503L21	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.8023	115	0.8146	117	80-120	2	0-10	





#### **Glossary of Terms and Qualifiers**



Work Order Number: 13-05-0112

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
Е	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



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7440 LINCOLN WAY

CHAIN OF CUSTODY RECORD

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aboratories	, Inc.	TEL: (714)	TEL: (714) 895-5494 . FAX: (714) 894-7501	K: (714) 894	-7501		wes 2	2			9		PAGE:	<u> </u>			P				
LABORATORY CLIENT: Pri	nceville Utili	Princeville Utilities Company, Inc.	ny, Inc.				,	CLIENT	LIENT PROJECT NAME / NUMBER: Drincaville   Hilities Company   Inc	VAME / NU	MBER: Comp	2 / / / /				P.O. NO.					
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city: Princeville				STATE:	ZIP: H	96722		Mich	Michael Loo							20	Jordan		Singles		
TEL: 808-826-6100		E-MAIL: mlc	mloo@princeville.com	lle.com								REQ	REQUESTED		ANALYSES	SES					
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Well #2 Post Chlorination	hlorination	5/1/2013		H20		×											×				
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		Waterpress											<u> </u>		1		1	7	06/01/1	06/01/10 Revision	<b>-</b>

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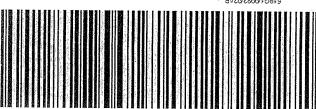
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Princeville, HI 96722 4261 Kekuanaoa Lane Princeville Utilities Company, 5-3541 Kuhio Highway, Suite 221

Michael Loo

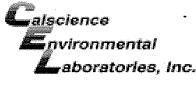
From: (808) 826-6100

BILL SENDER 113111302120326

7440 LINCOLN WAY Calscience Environmental Lab. Don Burley \$45-268 (\$11) OT 91HS

GARDEN GROVE, CA 92841





RDER #: 13-05-0 / / 2

<b>E</b> nvironmental	VVOr	KK UKDEK #:	10-00	ہا تعا –ر	
aboratorles, Inc.	E REC	EIPT FOR	RM c	ooler _	1 of 1
CLIENT: Princeville	Management .		DATE:	05/	02/13
TEMPERATURE: Thermometer ID: SC1 (Cri	teria: 0.0 °C	– 6.0 °C, not frozer	except sec	liment/tiss	sue)
Temperature <u>4</u> • <u>+</u> °C - 0.2°C (0	(F) = 4	• <u>5</u> _°C [	Blank	☐ Samp	ole
☐ Sample(s) outside temperature criteria (PM/	APM contact	ed by:).			
☐ Sample(s) outside temperature criteria but re	eceived on ic	e/chilled on same da	ay of samplir	ng.	
☐ Received at ambient temperature, place	d on ice fo	r transport by Co	urier.		
Ambient Temperature: ☐ Air ☐ Filter				Initia	al: <u>///</u>
CUSTODY SEALS INTACT:					, 0
	lot Intact)	Not Present	□ N/A	Initi	7.6
□ Sample □ □ No (N	lot Intact)	Not Present		Initi	ial: <u>* ₹5</u>
SAMPLE CONDITION:			Yes	No	N/A
Chain-Of-Custody (COC) document(s) receiv	ed with sam				
COC document(s) received complete			•		
Collection date/time, matrix, and/or # of container					
☐ No analysis requested. ☐ Not relinquished.					
Sampler's name indicated on COC		·			
Sample container label(s) consistent with CO					
Sample container(s) intact and good condition					
Proper containers and sufficient volume for a	nalyses requ	uested			
Analyses received within holding time					
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxyg	jen received	d within 24 hours	. 🗆		
Proper preservation noted on COC or sample	container				
$\square$ Unpreserved vials received for Volatiles anal	ysis				
Volatile analysis container(s) free of headspa	ce				
Tedlar bag(s) free of condensation  CONTAINER TYPE:					
Solid: □4ozCGJ □8ozCGJ □16ozCGJ	□Sleeve (_	) □EnCores	s [®] □Terra0	Cores [®] □	]
Water: □VOA □VOAh □VOAna₂ □125A0	3B □125A	GBh □125AGBp	□1AGB □	1AGB <b>na</b>	₂ □1AGB <b>s</b>
 	CD []250(	CO MOSOCORA	M100 F	11DDna	T500DB

□250PB □250PBn □125PB □125PBznna □100PJ □100PJna₂ □____ □ _

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope

Air: Tedlar[®] Canister Other: Trip Blank Lot#:_____ Labeled/Checked by:

Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by:

Reviewed by:

# Appendix B Analytical Laboratory Data AECOM





# **CALSCIENCE**

**WORK ORDER NUMBER: 13-03-0512** 

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

**Analytical Report For** 

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Sampling (HI)

**Attention:** Michael Loo

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Am

Birth

Approved for release on 03/12/2013 by: Don Burley Project Manager

nelao

Email your PM >

ResultLink >

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.



## **Contents**

Client Project Name: Princeville Sampling (HI)

Work Order Number: 13-03-0512

1	Client Sample Data	3
2	Quality Control Sample Data	
3	Glossary of Terms and Qualifiers	7
4	Chain of Custody/Sample Receipt Form	۶





#### **Analytical Report**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 03/08/13 13-03-0512 EPA 508A EPA 508A

Project: Princeville Sampling (HI)

Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
PV01		13-03-0512-1-A	03/06/13 10:20	Aqueous	GC 44	03/08/13	03/12/13 14:27	130308L21
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Decachlorobiphenyl	0.38	0.25	1		ug/L			
Method Blank		099-14-541-15	N/A	A	00.44		00/00/40	
monioa Biank		099-14-541-15	IWA	Aqueous	GC 44	03/08/13	03/08/13 15:35	130308L21
<u>Parameter</u>	Result	RL	DF	Qual	Units	03/08/13		130308L21





#### **Analytical Report**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received:
Work Order No:
Preparation:
Method:
Units:

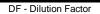
03/08/13 13-03-0512 EPA 3545 EPA 8082 mg/kg

Project: Princeville Sampling (HI)

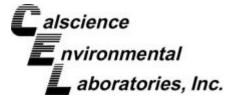
Page 1 of 1

Client Sample Number			Lab Sample Number	Date/Time Collected	Matrix Instrum	Date Date/Time ent Prepared Analyzed QC Batch
PV02			13-03-0512-2-A	03/06/13 11:30	Solid GC 5	8 03/08/13 03/11/13 130308L0 11:52
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u> <u>Qual</u>	<u>Parameter</u>		Result RL DF Qual
Aroclor-1016	ND	500	10000	Aroclor-1248		ND 500 10000
Aroclor-1221	ND	500	10000	Aroclor-1254		2600 500 10000
Aroclor-1232	ND	500	10000	Aroclor-1260		2100 500 10000
Aroclor-1242	ND	500	10000	Aroclor-1262		ND 500 10000
Surrogates:	<u>REC (%)</u>		<u>Qual</u>	Surrogates:		REC (%) Control Qual
Decembershiphonyl	1800	<u>Limits</u> 50-130	107	2.4.5.6 Totrook	oloro m. Vulono	<u>Limits</u> 690 50-130 _{1,2,7}
Decachlorobiphenyl	1000	00 100	1,2,7	2,4,5,6-Tetrach	<u> </u>	1,2,1
PV03			13-03-0512-3-A	03/06/13 12:40	Solid GC 5	8 03/08/13 03/11/13 130308L0 12:10
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u> <u>Qual</u>	Parameter		Result RL DF Qual
Aroclor-1016	ND	500	10000	Aroclor-1248		ND 500 10000
Aroclor-1221	ND	500	10000	Aroclor-1254		2900 500 10000
Aroclor-1232	ND	500	10000	Aroclor-1260		2200 500 10000
Aroclor-1242	ND	500	10000	Aroclor-1262		ND 500 10000
Surrogates:	<u>REC (%)</u>	Control Limits	Qual	Surrogates:		REC (%) Control Qual Limits
Decachlorobiphenyl	790	50-130	1,2,7	2,4,5,6-Tetrach	nloro-m-Xylene	240 50-130 1,2,7
PV04			13-03-0512-4-A	03/06/13 13:10	Solid GC 5	8 03/08/13 03/11/13 130308L0 12:28
Parameter	Result	RL	DF Qual	Parameter		Result RL DF Qual
Aroclor-1016 Aroclor-1221	ND ND	500 500	10000 10000	Aroclor-1248 Aroclor-1254		ND 500 10000 6200 500 10000
Aroclor-1232	ND ND	500	10000	Aroclor-1254 Aroclor-1260		6500 500 10000
Aroclor-1242	ND	500	10000	Aroclor-1262		ND 500 10000
Surrogates:	REC (%)		Qual	Surrogates:		REC (%) Control Qual
Surrogates.	<u>1120 (707</u>	Limits	<u>Quai</u>	<u>carrogates.</u>		Limits
		50-130		O 4 F C Totrock	nloro-m-Xylene	0 50-130 1,2,6
Decachlorobiphenyl	2020	30-130	1,2,7	2,4,5,6-Tetracr	ilolo-III-Ayiciic	1,2,0
Decachlorobiphenyl  Method Blank	2020	30-130	1,2,7 <b>099-12-535-1</b> ,880		Solid GC 5	1,2,0
	2020 Result		099-12-535-1,880	N/A	, , , , , , , , , , , , , , , , , , , ,	8 03/08/13 03/11/13 130308L0 11:34
Method Blank  Parameter	<u>Result</u>	<u>RL</u>	099-12-535-1,880	N/A Parameter	, , , , , , , , , , , , , , , , , , , ,	8 03/08/13 03/11/13 130308L0 11:34 Result RL DF Qual
Method Blank  Parameter  Aroclor-1016	<u>Result</u> ND	<u>RL</u> 0.050	099-12-535-1,880  DF Qual 1	N/A  Parameter  Aroclor-1248	, , , , , , , , , , , , , , , , , , , ,	B 03/08/13 03/11/13 130308L00  Result RL DF Qual  ND 0.050 1
Method Blank  Parameter  Aroclor-1016  Aroclor-1221	Result ND ND	RL 0.050 0.050	099-12-535-1,880  DF Qual  1 1	N/A  Parameter  Aroclor-1248  Aroclor-1254	, , , , , , , , , , , , , , , , , , , ,	B 03/08/13 03/11/13 130308L00  Result RL DF Qual  ND 0.050 1  ND 0.050 1
Method Blank  Parameter  Aroclor-1016  Aroclor-1221  Aroclor-1232	Result ND ND ND	RL 0.050 0.050 0.050	099-12-535-1,880  DF Qual 1	Parameter Aroclor-1248 Aroclor-1254 Aroclor-1260	, , , , , , , , , , , , , , , , , , , ,	B 03/08/13 03/11/13 130308L00  Result RL DF Qual  ND 0.050 1  ND 0.050 1  ND 0.050 1  ND 0.050 1
Method Blank  Parameter  Aroclor-1016  Aroclor-1221	Result ND ND	RL 0.050 0.050 0.050 0.050 0.050	099-12-535-1,880  DF Qual  1  1  1	N/A  Parameter  Aroclor-1248  Aroclor-1254	, , , , , , , , , , , , , , , , , , , ,	B 03/08/13 03/11/13 130308L00  Result RL DF Qual  ND 0.050 1  ND 0.050 1  ND 0.050 1  ND 0.050 1









#### **Quality Control - LCS/LCS Duplicate**

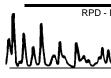


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-03-0512 EPA 3545 EPA 8082

Project: Princeville Sampling (HI)

Quality Control Sample ID	Matrix	lr	nstrument		ate oared	Date Analyzed	t	LCS/LCSD Batch Number	
099-12-535-1,880	Solid		GC 58	03/0	8/13	03/11/13		130308L08	
<u>Parameter</u>	<u>SPIKE</u> ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Aroclor-1016	0.1000	0.08600	86	0.08900	89	50-135	3	0-20	
Aroclor-1260	0.1000	0.08200	82	0.08400	84	50-135	2	0-25	







#### **Quality Control - LCS/LCS Duplicate**

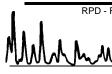


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-03-0512 EPA 508A EPA 508A

Project: Princeville Sampling (HI)

Quality Control Sample ID	Matrix	Ir	nstrument		ate pared	Date Analyzed	t	LCS/LCSD Batch Number	
099-14-541-15	Aqueous		GC 44	03/	08/13	03/08/13		130308L21	
<u>Parameter</u>	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Decachlorobiphenyl	0.6950	0.6655	96	0.7162	103	80-120	7	0-10	





#### **Glossary of Terms and Qualifiers**



Work Order Number: 13-03-0512

Qualifier	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
Χ	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



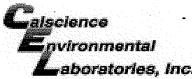
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Identification			Sample Disposal	_			(A fee may be assessed if samples are retained	oles are retained
Non-Hazard   Flammable   Skin Imtant Turn Around Time Recuired	L Polson B	- Onknown	Hetum 10 Cilent	C C Requirements (Specify)	ts (Specify)	osioi sinioni ———		
Trans 14 Days 14 Days 14 Days	ays 21 Days	s Other						
A Ras Ott			Time 1400	1. Received By		, ,	Date	Time
		Date	Time	2. Received By		SURAM	Date 3/8/	age
3. Relinquished By		Date	Тіте	3. Received By			Date	Time
Comments								

11

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy



NEW Package   Sepress   US Airbill   FedEx   8996 3258 4750	6m 0215	TRK# 8996 3258 4
1 From This portion can be removed for Recipient's records.	4 Express Package Service *To most locations.	000000
Date 3/4/12 FedEx 899632584750	NOTE: Service order has changed. Please select carefully.	
, ,	Next Business Day 2 or 3	AAI7/AD
Sender's AECOM Dustin Goto Phone 808 523-8874	FedEx First Overnight Earliest next business morning delivery to select locations. Fridey shipments will be delivered on Monday unless SAIURDV Delivery is selected.	WLAF
Company AECOM	FedEx Priority Overnight FedEx	15.00
- Constant	Fed Ex Priority Overnight  Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery will be de olivery of belivery of belivery in the delivery in the del	
Address 1001 BISHOP ST STE 1600		
Address 2001 IS15MUF 51 512 1600	FedEx Standard Overnight Next business afternoon. Not during believe IV of a vailable. FedEx Third but Saturday a level of the saturday and th	
s symph dym, s e se a t	5 Packaging • Declared value limit \$500.	
City HONDLULU State HI ZIP 96813-3698	,	
2 Your Internal Billing Reference	FedEx Envelope* FedEx Pak* Fed Boo	
041161993400	Box E	
3 To	6 Special Handling and Delivery Signature Opti	
Recipients Name Don Burley Phone 714 895-5494	SATURDAY Delivery NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express 5,5	
	NUT available for FedEx Standard Overnight, FedEx ZDay A.M., or FedEx Express (C)	
Company Colographic Engineering Laboratories Tre	No Signature Required Direct Signature	2 P
	No Signature Required Package may be left without obtaining a signature for delivery.  Direct Signature Someone at recipient's addrei may sign for delivery. Fee apps CL	
Sample Receiving  Address 7++0	Does this shipment contain dangerous goods?	
Address 7 4 7 Per Control address Pour Reculation Not available for We cannot deliver to P.O. boxes or P.O. 2/P codes.  Dept/Floor/Suitze/Room  Dept/Floor/Suitze/Room	One box must be checked.	· · · · · ·
HOLD Saturday Feetli location address  Address	No As per attached Shipper's Declaration Dry Dry ic	lce 5 e, 9, UN 1845 x kg
FedFy Priority (Ivernight and	Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.	🚂 🕻 argo Aircraft Only
Use this line for the HOLD location address or for continuation of your shipping address. FedEx 2Day to select locations.	7 Payment Bill to:	and the state of t
City Garden Grise State CA ZIP 92841-1432	Enter FedEx Acct. No. or Credit Card No. be	Obtain recip. Acct. No.
	Sender ' Acct No. in Section Recipient Third Party	Credit Card Cash/Check
0442954880	Was balled. Hoopieri. Hind Furty	acuit Caru Casi/Crieck
	Total Packages Total Weight	#End #
1	lbs. Bake and a second	
RT 17	†Our liability is limited to \$100 unless you declare a higher value. See the current FedEx Service D	Arg details. <b>Lil</b>
4750 03.08		
AND THE PROPERTY OF THE PROPER	Rev. Date 11/10 • Part #163134 • @1994-2010 FedEx • PRINTED IN U.S.A. SRS	
FZ		



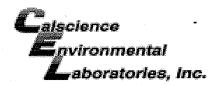
WORK ORDER #: 13-03- □ 5 □ 5

SAMPLE RECEIPT FO	RM c	ooler <u>/</u>	_ of <u>/</u>
CLIENT: Privaville Utility		03 /ol	/13
TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not froze	en except sed	iment/tissue	∍)
Temperature	<b>☑</b> Blank	☐ Sample	) )
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).			
☐ Sample(s) outside temperature criteria but received on ice/chilled on same	day of samplir	ı <b>g.</b>	
$\Box$ Received at ambient temperature, placed on ice for transport by C	ourier.		
Ambient Temperature: □ Air □ Filter		Initial:	#
CUSTODY SEALS INTACT:			10
Cooler	t □N/A	Initial	: <b>H</b>
✓ Sample □ □ No (Not Intact) □ Not Present		Initial	: <u>WY</u>
SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples		П	
COC document(s) received complete	•		
☐ Collection date/time, matrix, and/or # of containers logged in based on sample label			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	🗇		
Sample container label(s) consistent with COC		·	
Sample container(s) intact and good condition	<u>d</u>		
Proper containers and sufficient volume for analyses requested	🗆		
Analyses received within holding time	🗹		
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	🗆		Ø
Proper preservation noted on COC or sample container	🗷		
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace			z z
Tedlar bag(s) free of condensation  CONTAINER TYPE:	🗖		Ø
Solid: □4ozCGJ □8ozCGJ ☑16ozCGJ □Sleeve () □EnCor			
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp	DIAGE C	]1AGB <b>na₂</b> [	∃1AGB <b>s</b>
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGB	s □1PB □	]1PB <b>na</b> □	500PB
□250PB □250PB <b>n</b> □125PB □125PB <b>znna</b> □100PJ □100PJ <b>na</b> ₂ □_		<u> </u>	
Air: □Tedlar [®] □Canister Other: □ Trip Blank Lot#:	Labeled/C	hecked by:	WZ

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope

Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by:

Reviewed by:



WORK ORDER #: 13-03- 2 5

# SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS: Comments:								
Sample(s) NOT RECEIVED but listed on COC  Sample(s) received but NOT LISTED on COC  Holding time expired − list sample ID(s) and test  Insufficient quantities for analysis − list test Improper container(s) used − list test Improper preservative used − list test No preservative noted on COC or label − list test & notify lab Sample labels illegible − note test/container type Sample label(s) do not match COC − Note in comments Sample ID Date and/or Time Collected Project Information # of Container(s)								
☐ Analysis	_							
□ Sample container(s) compromised – Note in comments	_							
☐ Water present in sample container	-							
☐ Broken								
☐ Sample container(s) not labeled								
☐ Air sample container(s) compromised – Note in comments								
☐ Flat	-							
□ Very low in volume □ Leaking (Not transferred - duplicate bag submitted)								
☐ Leaking (Not transferred - duplicate bag submitted) ☐ Leaking (transferred into Calscience Tedlar® Bag*)	-							
☐ Leaking (transferred into Calscience Fedial Bag /	-							
□ Other:	_							
	=							
HEADSPACE – Containers with Bubble > 6mm or ¼ inch:								
Sample # Container ID(s)  # of Vials Received								
	_							
Comments:								
*Transferred at Client's request. Initial / Date: \$\frac{b.U}{03} \frac{108}{1}\$	3							

External Standard Report

_____

Data File Name : W:\DATA\130312A\13031216.D

Operator : 421 Vial Number : Vial 15

Sequence Line : 17 : GC 44 : 13-03-0512-1A Instrument

Sample Name

10200

Running Method : C:\CHEM32\1\METHODS\8081D-N->Report Style : PEST-F

Acquired on : 12 Mar 13 02:27 pm Method : EPA 8081A Report Created on: 12 Mar 13 03:46 pm Software Version : Rev. B.03.01 [317]

Copyright © Agilent Comment

Analysis Method : C:\CHEM32\1\METHODS\508A130308F.M Technologies

Sig. ECD1A, W:\DATA\130312A\13031216.D Area Type Width Ref # ppb Ret Time

8.181 55285.3VB 0.035 75.184 Decachlorobiphenyl

ECD1 A, Front Signal (W:\DATA\130312A\13031216.D) 50000 -Decachlorobiphenyl 40000 -30000 20000 10000 min





# **CALSCIENCE**

**WORK ORDER NUMBER: 13-03-1569** 

The difference is service



AIR SOIL WATER MARINE CHEMISTRY

**Analytical Report For** 

Client: Princeville Utilities Company, Inc.

Client Project Name: Princeville Utilities Company, Inc.

**Attention: Michael Loo** 

5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Approved for release on 03/26/2013 by: Don Burley

Project Manager



Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

ResultLink >

Email your PM >



## **Contents**

Client Project Name: Princeville Utilities Company, Inc.

Work Order Number: 13-03-1569

1	Case Narrative	3
2	Client Sample Data	4 4
3	Quality Control Sample Data	6 6 7
4	Glossary of Terms and Qualifiers	8
5	Chain of Custody/Sample Receipt Form	9





#### **CASE NARRATIVE**

Calscience Work Order: 13-03-1569

The analysis for EPA 8082 PCBs was performed on an aliquot that was taken after drying and sieving per the multi-incremental sampling protocol.





#### **Analytical Report**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: Units: 03/22/13 13-03-1569 EPA 3545 EPA 8082 ug/kg

Project: Princeville Utilities Company, Inc.

Page 1	of 2
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		,,								,	90 . 0. =
Client Sample Number				Sample lumber	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/ Analy		QC Batch ID
PV05		13-03-1569-1-C		03/20/13 08:10			03/25/13	3 03/26/13 09:56		130325L03	
Comment(s): -Results are reported of	n a dry weig	ght basis.									
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Parameter</u>			Result	<u>RL</u>	DF	Qual
Aroclor-1016	ND	50	1		Aroclor-1248			ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254			ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260			ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262			ND	50	1	
Surrogates:	REC (%)	Control Limits	<u>Qual</u>		Surrogates:			REC (%)	Control Limits	<u>C</u>	<u>Qual</u>
Decachlorobiphenyl	93	50-130			2,4,5,6-Tetrach	nloro-m-Xy	lene	94	50-130		
PV07			13-03-1	569-3-C	03/20/13 08:30	Solid	GC 58	03/25/13	03/26 10:		130325L03
Comment(s): -Results are reported of	, .	,									
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>			Result	<u>RL</u>	<u>DF</u>	<u>Qual</u>
Aroclor-1016	ND	50	1		Aroclor-1248			ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254			ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260			ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262			ND	50	1	
<u>Surrogates:</u>	REC (%)		<u>Qual</u>		Surrogates:			REC (%)		<u>C</u>	<u>Qual</u>
Decachlorobiphenyl	96	<u>Limits</u> 50-130			O 4 5 O Tatasahlara as Walasa		96	<u>Limits</u> 50-130			
<u> </u>		30-130	13-03-1569-4-C		2,4,5,6-Tetrachloro-m-Xylene					2/4.2	4000051.00
PV08					03/20/13 09:10	Solid	GC 58	03/25/13	03/26/13 10:32		130325L03
Comment(s): -Results are reported of	n a dry weig	ght basis.									
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Parameter</u>			Result	<u>RL</u>	DF	Qual
Aroclor-1016	ND	50	1		Aroclor-1248			ND	50	1	
Aroclor-1221	ND	50	1		Aroclor-1254			ND	50	1	
Aroclor-1232	ND	50	1		Aroclor-1260			ND	50	1	
Aroclor-1242	ND	50	1		Aroclor-1262			ND	50	1	
Surrogates:	REC (%)	Control Limits	Qual		Surrogates:			REC (%)	Control Limits	<u>C</u>	<u>Qual</u>
Decachlorobiphenyl	84	50-130			2,4,5,6-Tetrach	nloro-m-Xy	rlene	87	50-130		

M



# **Analytical Report**



Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: Units: 03/22/13 13-03-1569 EPA 3545 EPA 8082 ug/kg

Project: Princeville Utilities Company, Inc.

Page 2 of	2
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1 Toject. 1 Tillocville Of	illitics Compan	у, пто.	•						1 0	igo z oi z
Client Sample Number				o Sample lumber	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch II
PV09			13-03-1	569-5-C	03/20/13 10:00	Solid	GC 58	03/25/13	03/26/13 10:50	130325L03
Comment(s): -Results are rep	orted on a dry weight	basis.								
<u>Parameter</u>	Result F	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Parameter</u>			Result	RL DF	Qual
Aroclor-1016	ND 5	50	1		Aroclor-1248			ND	50 1	
Aroclor-1221	ND 5	50	1		Aroclor-1254			ND	50 1	
Aroclor-1232	ND 5	50	1		Aroclor-1260			ND	50 1	
Aroclor-1242	ND 5	50	1		Aroclor-1262			ND	50 1	
Surrogates:	REC (%)	Control	Qual	1	Surrogates:			REC (%)	Control	Qual
<del></del>		<u>_imits</u>			_				<u>Limits</u>	
Decachlorobiphenyl	70 5	50-130			2,4,5,6-Tetrach	nloro-m-Xy	rlene	76	50-130	
PV10			13-03-1	569-6-C	03/20/13 11:00	Solid	GC 58	03/25/13	03/26/13 11:08	130325L03
Comment(s): -Results are rep	orted on a dry weight	hasis								
Parameter	, ,	RL	<u>DF</u>	Qual	Parameter			Result	RL DF	Qual
Aroclor-1016		50	1		Aroclor-1248			ND	50 1	
Aroclor-1221	-	50	1		Aroclor-1254			ND	50 1	
Aroclor-1232	<del>-</del>	50	1		Aroclor-1260			ND	50 1	
Aroclor-1242		50	1		Aroclor-1262			ND	50 1	
Surrogates:	-	Control	' Qual		Surrogates:			REC (%)		Qual
<u> Janogates.</u>		imits		•					Limits	
Decachlorobiphenyl	83 5	50-130			2,4,5,6-Tetrach	nloro-m-Xy	lene	85	50-130	
Method Blank			099-12-	535-1,929	N/A	Solid	GC 58	03/25/13	03/25/13 18:42	130325L03
Parameter	Pocult F	DI .	DE	Oual	Doromotor			Pocult	DI DE	Oual
Parameter 1949		<u> </u>	<u>DF</u>	<u>Qual</u>	Parameter 1949			Result	RL DF	<u>Qual</u>
Aroclor-1016		50	1		Aroclor-1248			ND	50 1	
Aroclor-1221		50	1		Aroclor-1254			ND	50 1	
Aroclor-1232		50	1		Aroclor-1260			ND ND	50 1	
Aroclor-1242		50 Control	1	1	Aroclor-1262				50 1	Ougl
Surrogates:	<del></del>	Control Limits	Qual	<u>l</u>	Surrogates:			REC (%)	Control Limits	<u>Qual</u>
Decachlorobiphenyl	_	50-130			2,4,5,6-Tetrach	nloro-m-Xy	lene	91	50-130	

MAL-Rej





# **Quality Control - Spike/Spike Duplicate**

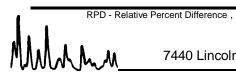


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: 03/22/13 13-03-1569 EPA 3545 EPA 8082

#### Project Princeville Utilities Company, Inc.

Quality Control Sample ID			Matrix	In	strument		Pate epared	Date Analyzed		ISD Batch umber
PV08			Solid	G	C 58	03/2	25/13	03/26/13	130	325S03
<u>Parameter</u>	SAMPLE CONC	SPIKE ADDED	MS CONC	MS %REC	MSD CONC	MSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Aroclor-1016 Aroclor-1260	ND ND	100.0 100.0	100.2 103.9	100 104	93.10 96.36	93 96	50-135 50-135	7 8	0-20 0-25	







# **Quality Control - LCS/LCS Duplicate**

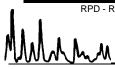


Princeville Utilities Company, Inc. 5-3541 Kuhio Highway, Ste. 221 Princeville, HI 96722-5564

Date Received: Work Order No: Preparation: Method: N/A 13-03-1569 EPA 3545 EPA 8082

Project: Princeville Utilities Company, Inc.

Quality Control Sample ID	Matrix		Instrument		ate pared	Date Analyzed	d	LCS/LCSD Batch Number	
099-12-535-1,929	Solid		GC 58	03/2	25/13	03/26/13		130325L03	
<u>Parameter</u>	<u>SPIKE</u> <u>ADDED</u>	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Aroclor-1016	100.0	118.9	119	118.4	118	50-135	0	0-20	
Aroclor-1260	100.0	119.3	119	118.8	119	50-135	0	0-25	





# **Glossary of Terms and Qualifiers**

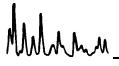


Work Order Number: 13-03-1569

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

For any analysis identified as a "field" test with a holding time (HT) </= 15 minutes where the sample is received outside of HT, Calscience will adhere to its internal HT of 24 hours. In cases where sample analysis does not meet Calscience's internal HT, results will be appropriately qualified.



ADDRESS

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LAB USE ONLY

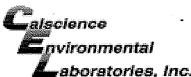
4

DISTRIBUTION: White with final report, Green and Yellow to Client. Please note that pages 1 and 2 of 2 of our T/Cs are printed on the reverse side of the Green and Yellow copies respectively.

06/01/10 Revision

Express US Airbill Fredering 8723 1394 1	0200 form 10 No.	FedEx Retrieval Copy
Prom Dete 3 27 / 3 Sender's FedEx Account Number / 786 702/2	4a Express Package Service Ta most location for Medium 1987 FedEx Priority Overnight Next business norming. Findey Stand Next business after shipments will be deflored on Menday unless SATURDAY Otherwise stated.	ard Overnight 06 FedEx First Overnight
Sender's Mark Bigelow Phone 808 212-8	unless SATURDAY Delivery is selected.  ### 203 Second twisness day, "Thursday Shipments will be delivered on Manday unless SATURDAY Delivery is selected.  #### 200 Second twisness day, "Thursday Shipments will be delivered on Manday unless SATURDAY Delivery is selected.  Saturday Delivery	
Sompany The Com	4b Express Freight Service - To most locations.	Packages over 150 lbs.
Address 1001 Bishop ST. #1600	70 FedEx 1Day Freight Next business day." Friday shipments will be discreted in Mindray unless SATURDAY Delivory is selected.	ng No.
City Honolulu State Ht ZIP PUBL	Social full from Social Design Feed Ext 2 Day Freight Social Design Feed Ext 2 Day Feed Fe	FedEx 3Day Freight Third business day.** Saturday Delivery NOT available.
Your Internal Billing Reference Princeville Utilities		FedEx 04 FedEx 01 Other Box
To Recipients Sample Recieving Phone 714 895-5	6 Special Handling and Delivery Signatur  7/94/ 03□ SATURDAY DELIVERY	re Options
Company 7440 Lincolf Way	No Signature Required Package may be left without thing a signature for delivery to the property of the proper	ure Indirect Signature If no one is available at recipients eddress, somewhere at a recipients eddress, somewhere at a recipients eddress, somewhere at a recipient or a
We cannot deliver to P.O. boxec or P.O. 2IP unders Deat-Floor/Suite/Room	Yes Yes	residential deliveries only. Fire applies.
3 FacEx Priority C	allettle ONLY for	Dry Ice Dry/ce, 9, UN 1945  Cargo Aircraft Only
City GARDEN GLOVE State CA ZIP 92841-1	7 Payment Bill to:	Obtain recip.
	Sender Acct. No. or Cree    Sender   Enter FedEx Acct. No. or Cree   Recipient   3   Third Pa	
2773 1204 1006	lbs.  †Our liebility is limited to \$100 unless you declare a higher value. See the current	Fedfex Sorvice Guide for dotals.

eturn to Contents



WORK ORDER #: **13-03-** □ □ □ □

SAMPLE RECEIPT FORM	Cooler	_ of <u>_</u>
CLIENT: AE(OM/Princeville Utilities DATE	: 03/22	<u>- /13</u>
TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, not frozen except s	ediment/tissue	e)
Temperature $2 \cdot 9 \text{ °C} \cdot 0.2 \text{ °C} \text{ (CF)} = 2 \cdot 7 \text{ °C}$ Blank	☐ Sample	<b>)</b>
☐ Sample(s) outside temperature criteria (PM/APM contacted by:).		
☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of samp	oling.	
☐ Received at ambient temperature, placed on ice for transport by Courier.		
Ambient Temperature: ☐ Air ☐ Filter	Initial:	: 11
CUSTODY SEALS INTACT:		
Cooler □ □ No (Not Intact) □ Not Present □ N/A	\ Initial	: 7
□ Sample □ □ No (Not Intact) ☑ Not Present	Initial	: <u> 74                                    </u>
SAMPLE CONDITION: Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	П	
COC document(s) received complete		
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.	<i></i>	
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.		
Sampler's name indicated on COC.		
Sample container label(s) consistent with COC		
Sample container(s) intact and good condition		
Proper containers and sufficient volume for analyses requested □		
Analyses received within holding time		. 🗆
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours		Z
Proper preservation noted on COC or sample container		
☐ Unpreserved vials received for Volatiles analysis		
Volatile analysis container(s) free of headspace □		
Tedlar bag(s) free of condensation □  CONTAINER TYPE:		
Solid: □4ozCGJ □8ozCGJ □16ozCGJ □Sleeve () □EnCores® □Terr	aCores® <u>⊠w</u>	HIRL-PAK
Water: □VOA □VOAh □VOAna₂ □125AGB □125AGBh □125AGBp □1AGB		
□500AGB □500AGJ □500AGJs □250AGB □250CGB □250CGBs □1PB	□1PBna □	1500PB
□250PB □250PBn □125PB □125PBznna □100PJ □100PJna ₂ □ □		
Air: Tedlar® Canister Other: Trip Blank Lot#: Labeled Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope	d/Checked by: Reviewed by:	

Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna: ZnAc₂+NaOH f: Filtered Scanned by: ///

# Appendix C Written Certification as per §761.61(a)(E) PUCI



May 21, 2013

Jeff Scott, Director Waste Management Division United State Environmental Protection Agency, Region 9 75 Hawthorne Street San Francisco, CA 94105

Subject:

Written Certification Reguired Under §761.61(a)(3)(E)

Remedial Action Plan

Princeville Remedial Action Plan

Princeville, Kauai, Hawaii

Dear Mr. Scott:

I certify that all records related to the preparation for and removal of PCB contamination from Princeville Utilities Company Inc's 411 Water Reservoir as more fully described in the Princeville Remedial Action Plan dated May 2013 prepared by AECOM, are on file at 5-3541 Kuhio Highway, Suite 221, Princeville, Hawaii and are available for EPA inspection.

If you have any questions, comments, or concerns you may contact the undersigned at mloo@princeville.com or 808-826-6100 Ex 20 or by fax at 808-827-8019.

Very truly yours,

Michael Y.M. Loo

Manager

cc: Steve Armann, PCB Program Coordinator, Region 9

Joanna Seto, Safe Drinking Water Branch, Hawaii Department of Health

Larry Dill, County Engineer, County of Kauai

Appendix D
Standard Operating Procedure for Sampling Porous Surfaces for
Polychlorinated Biphenyls

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1 5 Post Office Square, Suite 100 Boston, MA 02109-3912



STANDARD OPERATING PROCEDURE FOR SAMPLING POROUS SURFACES FOR POLYCHLORINATED BIPHENYLS (PCBs)

# STANDARD OPERATING PROCEDURE FOR SAMPLING POROUS SURFACES FOR POLYCHLORINATED BIPHENYLS (PCBs)

# The Office of Environmental Measurement and Evaluation EPA New England – Region 1 11 Technology Dr. North Chelmsford, MA 01863

Prepared by:	Dan Granz, Environmental Engineer	5K/11 Date
Reviewed by:	Kim Tisa, TSCA PCB Coordinator	5/5/11 Date
Reviewed by:	Jerry Keefe - EIA Team Leader	05/23/11 Date
Approved by:	Dan Boudreau, EIA Chemistry Team Leader	5/23/11 Date

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# **Revision Page**

Date	Rev#	Summary of Changes	Sections
12/97	1	Initial Approval, draft	
3/20/08	2	Major update, only for PCBs, added TSCA sampling	All sections
7/17/08	3	Disposal of dust filter and decon of vac hose	11.0 and 14.0
5/04/11	4	Vacuum Trap Design and Clean-out	9.4

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Example of Custody Seal and Sample Label Example of Chain of Custody Form

# 1.0 Scope and Application

- 1.1 This Standard Operating Procedure (SOP) is suitable for collection of a porous matrix sample for analysis of Polychlorinated Biphenyls (PCBs).
- 1.2 This SOP describes sampling techniques for both hard and soft porous surfaces.
  - 1.2.1 Hard surfaces, and most soft surfaces, can be sampled using an impact hammer drill to generate a uniform, finely ground, powder to be extracted and analyzed for PCBs. This procedure is primarily geared at providing enough sample quantity for two analyses. Hard porous surfaces include concrete, brick, asphalt, cement, sandstone, limestone, unglazed ceramics, and other possible PCB suspected material. This procedure may also be used on other softer porous surfaces, such as wood.
  - 1.2.2 Soft surfaces can be sampled using a chisel or sharp knife to generate a representative sample to be extracted and analyzed for PCBs. Soft porous surfaces include wood, wall plasterboard, low density plastics, rubber, caulking, and other PCB suspected material.
- 1.3 This SOP provides for collection of surface samples (0 0.5 inches) and delineation of PCB contamination throughout the core of the porous surface. The procedure can be used to sample the porous surface at distinctly different depth zones.

#### 2.0 Method Summary

A one-inch or other sized diameter carbide drill bit is used in a rotary impact hammer drill to generate a fine powder, or other representative sample, suitable for extraction and analysis of PCBs from porous surfaces. This method also allows the use of chisels or knives for the collection of samples from soft porous surfaces for PCB analysis.

#### 3.0 Definitions

- 3.1 Field/Bottle Blank: A sample container of the same lot as the containers used for the environmental samples. This evaluates PCB contamination introduced from the sample container(s) from a common lot.
- 3.2 Equipment/Rinse/Rinsate Blanks: A sample that is collected by pouring hexane over the sample collection equipment after decontamination and before sample collection. The sample is collected in the appropriate sample container identical to the sample containers. This represents background contamination resulting from the field equipment, sampling procedure, sample container, and shipment.

- 3.3 Field Replicates/Duplicates: Two or more samples collected at the same sampling location. Field replicates should be samples collected side by side. Field replicates represent the precision of the whole method, site heterogeneity, field sampling, and the laboratory analysis.
- 3.4 Field Split Samples: Two or more representative subsamples taken from one environmental sample in the field. Prior to splitting, the environmental sample is homogenized to correct for sample heterogeneity that would adversely impact data comparability. Field split samples are usually analyzed by different laboratories (interlaboratory comparison) or by the same laboratory (intralaboratory comparison). Field splits are used to assess sample handling procedures from field to laboratory and laboratory comparability.
- 3.5 Laboratory Quality Samples: Additional samples that will be collected for the laboratory's quality control program: matrix spike, matrix spike duplicate, laboratory duplicates, etc.
- 3.6 Proficiency Testing (PT)/Performance Evaluation (PE) Sample: A sample, the composition of which is unknown to the laboratory or analyst, provided to the analyst or laboratory to assess the capability to produce results within acceptable criteria. This is optional depending on the data quality objectives. If possible, it is recommended that the PE sample be of similar matrix as the porous surface(s) being sampled.
- 3.7 Porous Surface: Any surface that allows PCBs to penetrate or pass into itself including, but not limited to, paint or coating on metal; corroded metal; fibrous glass or glass wool; unglazed ceramics; ceramics with porous glaze; porous building stone such as sandstone, travertine, limestone, or coral rock; low density plastics such as Styrofoam and low density polyethylene; coated (varnished or painted) or uncoated wood; painted or unpainted concrete or cement; plaster; plasterboard; wallboard; rubber; caulking; fiberboard; chipboard; asphalt; or tar paper.
- 3.8 Shipping Container Temperature Blank: A water sample that is transported to the laboratory to measure the temperature of the samples in the cooler.

# 4.0 Health and Safety

- 4.1 Eye, respiratory, and hearing protection are required at all times during sample drilling. A properly fitted respirator is required for hard porous surface sampling. A respirator is recommended whenever there is a risk of inhalation of either particulate or volatilized PCBs during sampling.
- 4.2 All proper personal protection clothing and equipment must be worn.

- 4.3 When working with potentially hazardous materials or situations, follow EPA, OSHA, and specific health or safety procedures.
- 4.4 Care must be exercised when using an electrical drill and sharp cutting objects.

#### 5.0 Interferences and Potential Problems

- 5.1 This sampling technique produces a finely ground uniform powder, which minimizes the physical matrix effects from variations in the sample consistency (i.e., particle size, uniformity, homogeneity, and surface condition). Matrix spike analysis of a sample is highly recommended to monitor for any matrix related interferences.
- 5.2 Nitrile gloves are recommended. Latex gloves must not be used due to possible phthalate contamination.
- 5.3 Interferences may result from using contaminated equipment, solvents, reagents, sample containers, or sampling in a disturbed area. The drill bit must be decontaminated between samples. (see Section 11.0.)
- 5.4 Cross contamination problems can be eliminated or minimized through the use of dedicated sampling equipment.

#### 6.0 Personnel Qualifications

- 6.1 All field samplers working at hazardous materials/waste sites are required to take a 40 hour health and safety training course prior to engaging in any field activities. Subsequently, an 8 hour refresher health and safety course is required annually.
- 6.2 The field sampler should be trained by an experienced sampler before initiating this procedure.
- 6.3 All personnel shall be responsible for complying with all quality assurance/quality control requirements that pertain to their organizational/technical function.

# 7.0 Equipment and Supplies

7.1 This list varies with the matrix and if depth profiling is required

Rotary impact hammer variable speed drill 1-inch or other suitable (1/2, 3/4, etc.) diameter carbide tip drill bits Steel chisel or sharp cutting knife, and hammer Brush and cloths to clean area Stainless steel scoopulas Aluminum foil to collect the powder sample

1 quart Cubitainer with the top cut out to collect the powder sample

Aluminum weighing pans to collect the powder sample

Cleaned glass container (2 oz or 40 mL) with Teflon lined cap

Decontamination supplies: hexane, two small buckets, a scrub brush, detergent, deionized water, hexane squirt bottle, and paper towels

Dedicated vacuum cleaner with a disposable filter or a vacuum pump with a dust filter Polyethylene tubing and Pasteur pipettes

Sample tags/labels, custody seals, and Chain-of-Custody form

# 8.0 Sampling Design

- 8.1 A sufficient number of samples must be collected to meet the data quality objectives of the project. If the source of the PCB contamination is regulated under the federal TSCA PCB Regulations at 40 CFR Part 761, the sampler should insure that the sampling design is sufficient to meet any investigation or verification sampling requirements. At a minimum, the following is recommended:
  - 8.1.1 Suspected stained area (s) should be sampled.
  - 8.1.2 At each separate location, collect at least 3 samples of each type of porous surface, regardless of the amount of each type of porous surface present.
  - 8.1.3 In areas where PCB equipment was used or where PCBs were stored, samples should be collected at a frequency of 1 sample/100 square feet (ft²).

# 9.0 Sample Collection

#### 9.1 Hard Porous Surfaces

- 9.1.1 Lock a 1-inch or another size diameter carbide drill bit into the impact hammer drill and plug the drill into an appropriate power source. For easy identification, sample locations may be pre-marked using a marker or paint. (Note: the actual drilling point must not be marked.) Remove any debris with a clean brush or cloth prior to drilling. All sampling decisions of this nature should be noted in the sampling logbook.
- 9.1.2 Use a Cubitainer with the top cut off or aluminum foil to contain the powdered sample. Begin drilling in the designated location. Apply steady even pressure and let the drill do the work. Applying too much pressure will generate excessive heat and dull the drill bit prematurely. The drill will provide a finely ground powder that can be easily collected.

- 9.1.3 Samples should be collected at ½-inch depth intervals. Thus, the initial surface sample should be collected from 0 0.5 inches. A ½-inch deep hole generates about 10 grams (20 mL) of powder. Multiple holes located closely adjacent to each other, may be needed to generate sufficient sample volumes for a PCB determination. It is strongly recommended that the analytical laboratory be consulted on the minimum sample size needed for PCB extraction and analysis.
- 9.1.4 Wall and Ceiling Sampling: A team of two samplers will be required for wall and ceiling sampling. The second person will hold a clean catch surface (e.g. an aluminum pan) below the drill to collect the falling powder. Alternatively, use the chuck-end of the drill bit and punch a hole through the center of the collection pan. The drill bit is then mounted through the pan and into the drill. For ceilings, the drill may be held at an angle to collect the powder. Thus the driller can be drilling at an angle while the assistant steadies the pan to catch the falling powder. As a precaution, it may be advantageous to tape a piece of plastic around the drill, just below the chuck, to avoid dust contaminating the body of the drill and entering the drill's cooling vents. Caution must be taken to prevent obstruction of the drill's cooling vents.

#### 9.2 Soft Porous Surfaces

- 9.2.1 The procedure for the hard porous surface may be used for certain soft porous surfaces, such as wood.
- 9.2.2 Samples should be collected at no more than  $\frac{1}{2}$ -inch depth intervals using a metal chisel or sharp cutting knife. Thus, the initial surface sample should be collected from 0-0.5 inches. It is important to collect at least 10 grams for analysis.
- 9.2.3 For soft porous surfaces, such as caulking and rubber, a representative sample can be collected using a metal chisel or sharp cutting knife.

# 9.3 Multiple Depth Sampling

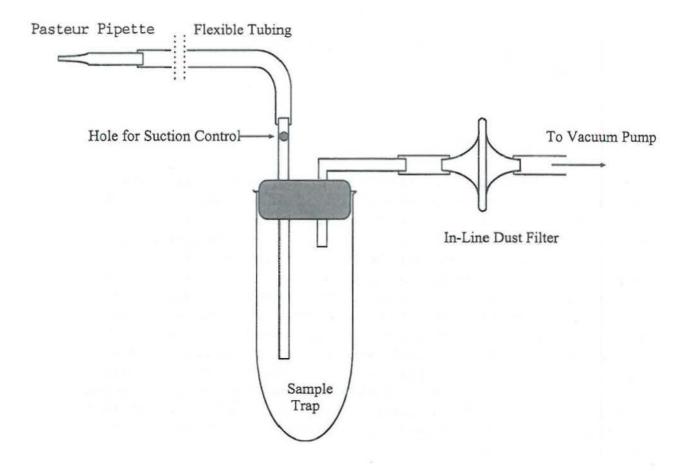
- 9.3.1 Multiple Depth Sampling may not be applicable to certain porous surfaces, such as caulking.
- 9.3.2 Collect the surface sample as outlined in Section 9.1 or 9.2.
- 9.3.3 Use the vacuum pump or cleaner to clean out the hole.
- 9.3.4 To collect multiple depths there are two options.

- 9.3.4.1 Option one: drill sequentially ½-inch increments with the 1 inch drill.
- 9.3.4.2 Option two: drill with the 1 inch bit and either make the hole larger or use a smaller bit to take the next ½- inch sample.
- 9.3.5 A stainless steel scoopula will make it easier to collect the sample from the bottom of the hole.

# 9.4 Vacuum Trap Design and Clean-out

The trap presented in Figure 1 is a convenient and thorough way for collecting and removing concrete powder from drilled holes. The trap system is designed to allow for control of the suction from the vacuum pump and easy trap clean-out between samples. Note, by placing a hole in the inlet tube (see Figure 1), a finger on the hand holding the trap can be used to control the suction at the sampling tip. Thus, when this hole is left completely open, there will be no suction, and the sampler can have complete control over where and what to sample. To change-out between samples the following steps should be taken: 1) the Pasteur pipette and piece of polyethylene tubing at the sample inlet should be replaced with new materials, 2) the portion of the rubber stopper and glass tubing that was in the trap should be wiped down with a clean damp paper towel (wetted with deionized water) and then dried with a fresh paper towel, 3) a clean pipe cleaner should be drawn through the glass inlet tube to remove any concrete dust present, and 4) the glass tube or flask used to collect the sample should swapped out with a clean decontaminated sample trap. Having several clean tubes or flasks on hand will facilitate change-out between samples.

Figure 1



Note: the holes should be vacuumed thoroughly to minimize any cross-contamination between sample depths and the bits should be decontaminated between samples. (See Section 11.0)

#### 10.0 Sample Handling, Preservation, and Storage

- 10.1 Samples must be collected in glass containers for PCB analyses. In general, a 2-ounce sample container with a Teflon-lined cap (wide-mouth jars are preferred) will hold sufficient mass for most analyses. A 2-ounce jar can hold roughly 90 grams of sample.
- 10.2 Samples are to be shipped refrigerated and maintained at ≤ 6°C until the time of extraction and analysis.
- 10.3 The suggested holding time for PCB samples is 14 days to extraction.

#### 11.0 Decontamination

- 11.1 Assemble two decontamination buckets. The first bucket contains a detergent and potable water solution, and the second bucket is for rinsate. Place all used drill bits, hose for the vacuum cleaner, and utensils in the detergent and water bucket. Scrub each piece thoroughly using the scrub brush. Note, the powder does cling to the metal surfaces, so care should be taken during this step, especially with the twists and curves of the drill bits. Next, rinse each piece with water and hexane. Place the rinsed pieces on clean paper towels and individually dry and inspect each piece. Note: all pieces should be dry prior to reuse.
- 11.2 Lightly contaminated drill bits and utensils may be wiped with a hexane soaked cloth and hexane rinsed for decontamination.

## 12.0 Data and Record Management

- 12.1 All data and information collection should follow a Field Data Management SOP or Quality Assurance Project Plan (QAPP).
- 12.2 Follow the chain of custody procedures to release the samples to the laboratory. A copy is kept with the sampling records.
- 12.3 The field data is stored for at least 3 years.

#### 13.0 Quality Control and Quality Assurance

- 13.1 Representative samples are required. The sampler will evaluate the site specific conditions to assure the sample will be representative.
- 13.2 All sampling equipment must be decontaminated prior to use and between each discrete sample.
- 13.3 All field Quality Control (QC) sample requirements in a Sample and Analysis Plan (SAP) or QAPP must be followed. The SAP or QAPP may involve field blanks, equipment blanks, field duplicates and/or the collection of extra samples for the laboratory's quality control program.
- 13.4 Field duplicates should be collected at a minimum frequency of 1 per 20 samples or 1 per non-related porous matrix, whichever is greater.

## 14.0 Waste Management and Pollution Prevention

14.1 During field sampling events there may be PCB and/or hazardous waste produced from the sample collection. The waste must be handled and disposed of in accordance with federal, state, and local regulations. The dust filter, and tubing if a vacuum pump is used, is disposed after each site investigation. This waste will be treated as PCB waste if the samples are positive for PCBs. It may be possible to manage or dispose of the waste produced at the site where the work was performed. If the site does not meet regulatory requirements for these types of activities, the waste must be transported to a facility permitted to manage and/or dispose of the waste.

#### 15.0 References

- Guidance for the Preparation of Standard Operating Procedures for Quality-Related Operations, QA/G-6, EPA/600/R-96/027, November 1995.
- 40 CFR Part 761 Polychlorinated Biphenyls (PCBs) Manufacturing, Processing, Distribution In Commerce, and Use Prohibitions
- 3. Sample Container and Holding Time: RCRA SW 846, Chapter 4, Table 4.1, Revision 4, February, 2007.

# Example of Sample Label and Custody Seal

NAME OF UNIT AND ADDRESS  ENVIRONMENTAL SERVICE			STATE OF		
ENVIRONMENTAL SERVICE 60 WESTVIEW STE LEXINGTON, MASSACHUS	REET	TIME STATION NO.			
SOURCE OF SAMPLE		SAMPLE NO. SUB NO. PRESERVATIVE			
			The second second second		
SAMPLING CREWIFIRST, INITIAL, LAST NA	ame)	AMOUNT			
	SAMPLE NO.		DATE	ABI	] g
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#### **About AECOM**

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